Scottish Universities Research & Reactor Centre

THE USE OF AERIAL RADIOMETRICS FOR EPIDEMIOLOGICAL STUDIES OF LEUKAEMIA.

A PRELIMINARY INVESTIGATION IN SW ENGLAND

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SUMMARY

The report presents the results and conclusions of a pilot study designed to evaluate the potential use of aerial gamma ray measurements in epidemiological investigations of leukaemia. The sources of natural radiation were reviewed and associations between U, Th and K and dose to the human population noted. The association between leukaemia and radiation exposure was also noted, in particular the clear evidence from high dose studies, the potential importance of radium and radon, and the difficulties of achieving statistical significance in case-control studies at environmental dose rates due to the need for large area surveys covering large populations.

Aerial surveys were conducted in three disjoint grids selected by the Leukaemia Research Fund Clinical epidemiology unit at Leeds University. The areas covered some 2,500 km, and were surveyed in a 50 hour fieldwork period in September 1989. Over 4800 gamma spectra were recorded, representing between 200 and 400 times the number of measurements per unit area of the NRPB national maps, and an area sampling density some 10^6 times greater. The data were used to estimate specific activities of potassium, uranium and thorium. Environmental infinite matrix alpha and beta dose rates were calculated using equilibrium assumptions and gamma ray dose rates were estimated directly from the spectra. Mean values for gamma dose rates were compatible with NRPB estimates for the counties. The detailed gamma ray maps demonstrate that both radiation levels, and quality show local variations within each survey grid of a magnitude comparable with that observed in whole of the UK in national maps. Considerable caution is thus needed in using national data for epidemiological studies. Local variations, which can be clearly associated with underlying geological and geomorphological structures should be taken into account in such work. No significant enhancements were noted due to activities at the Devonport Dockyard, in keeping with published ground based monitoring. The main enhancement in the vicinity of Hinkley Point was due to the authorised discharge of ^{41}Ar, which was clearly detected in the survey.

Two methods for associating the radiometric results with epidemiological data were developed and applied. A case-control study was performed by matching case and control locations to individual spatially averaged radiometric results and comparing the associated radiation levels. The second method evaluated radiation stratified incidence rates by combining stratified case radiometric data with similar information estimated from a population density surface constructed for the grids. Weighted regression analysis was used to assess any associations. The results are in general limited by the low number of leukaemia cases within the study area, resulting in statistically weak or insignificant links. However positive associations between equivalent uranium and leukaemia, particularly in the grid including the rivers Tavy and Tamar, were observed in both case-control and incidence rate analyses. A negative association with equivalent Thorium observed in the incidence rate analysis was not reproduced in case-control comparisons.

This approach could be extended to larger area studies to increase statistical power. In parallel investigations of the relationship between environmental and individual radiation exposure, and investigation of the potential association between radium, or radon and leukaemia following the trends observed here would be appropriate.

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1. INTRODUCTION

This report presents the results and conclusions of a pilot study, commissioned by the Leukaemia Research Fund, to investigate the distribution of terrestrial gamma radiation in relation to the incidence of leukaemia in parts of Cornwall, Devon and Somerset. It comprises an aerial gamma ray survey of roughly 2250 km^2 in SW England and develops a methodology for the linkage of the radiometric data obtained to available epidemiological data. It is intended to demonstrate the manner in which aerial radiometric survey could be used as a source of information on background radioactivity for larger epidemiological studies. This may provide the only practical methodology for investigating large population groups on a regional or national scale.

1.1 Environmental sources of natural radioactivity

Natural radioactivity and ionising radiation are inextricable features of the environment in which we live, and provide the major source of radiation exposure to the human population. The upper atmosphere is continually bombarded with cosmic rays, leading to the production of short lived cosmogenic nuclides, such as radiocarbon and tritium, and to a significant direct flux of secondary and tertiary radiation at ground level. Traces of primordial nuclides, which have long half-lifes compared with the age of the earth, occur at varying concentrations in all rocks, soils, and building materials.

The most significant sources of terrestrial radioactivity, in dosimetric terms, are primordial nuclides ^{40}K, and uranium and thorium and their decay products. ^{40}K emits beta and gamma radiation, and as a minor isotope (117 ppm) of elemental potassium can contribute both to internal and external radiation of the body. The uranium and thorium series supply alpha, beta and gamma radiation. Other less abundant primordial nuclides, and cosmogenic nuclides can be shown to contribute less than 1 % of terrestrial dose rates (Sanderson, 1987).

Uranium and thorium decay to stable isotopes of lead, by a series of transmutations leading to the transient formation of unstable daughter products, emitting alpha, beta and gamma radiation. Since the half lives of the daughter products are shorter than the parent half lives, conditions of secular equilibrium may be established whereby the activity of each nuclide is equal to that of the parent. Equilibrium conditions depend on the decay products remaining in physical proximity to their parent activity, and can be disturbed if chemical or physical differences between successive nuclides in the chains lead to their spatial segregation in environmental or biological systems. The natural uranium and thorium decay chains are shown in tables 1.1 to 1.3 together with energy release data per parent decay tabulated by radiation type under equilibrium conditions (after Sanderson, 1987, with nuclear data from Browne & Firestone, 1986). The most commonly recognised disequilibria are those associated with the diffusion of radon gases (^{219}Rn, ^{220}Rn, ^{222}Rn), of which the uranium series derived ^{222}Rn is most pronounced; and the environmental mobilisation of uranium and radium isotopes, due to interactions with aqueous systems.

Nuclide	Half Life	Mean Energy per parent decay / MeV			Daughter
		Alpha	Beta	Gamma	
^{238}U	4.468x10^{9} a	4.194	0.0095	0.0013	^{234}Th
^{234}Th	24.1 d		0.0158	0.0094	^{234m}Pa 99.87 % ^{234}Pa 0.13%
^{234m}Pa	1.17 m		0.822	0.0138	^{234}U
^{234}Pa	6.70 h		0.0006	0.0025	^{234}U
^{234}U	2.454x10^{5} a	4.773		0.00011	^{230}Th
^{230}Th	7.54x10^{4} a	4.665		0.00037	^{226}Ra
^{226}Ra	1600 a	4.774		0.00674	^{222}Rn
^{222}Rn	3.825 d	5.489			^{218}Po
^{218}Po	3.11 m	6.001			^{214}Pb 99.98% ^{218}At 0.02%
^{214}Pb	26.8 m		0.294	0.25	^{214}Bi
^{218}At	1.6s	0.00134			^{214}Bi
^{214}Bi	19.9 m	0.00143	0.662	1.508	^{214}Po
^{214}Po	163.69 μs	7.687		0.00008	^{210}Pb
^{210}Pb	22.3 a		0.0342	0.00467	^{210}Bi
^{210}Bi	5.013 d		0.389	0.00045	^{210}Po
^{210}Po	138.38 d	5.30			^{206}Pb Stable
TOTAL		42.886	2.227	1.797	

Table 1.1 ^{238}U decay series and energy release data

Providing that equilibrium conditions are maintained, or approximated, which may in general occur on a macroscopic scale, there are fixed relations between the relative alpha, beta and gamma contributions of each decay series to environmental radiation fields. In particular infinite matrix dose contributions can be assessed using energy yield data from the decay chains, and are proportional to specific activities, and hence to the environmental concentrations of each parent source. Where equilibrium conditions are assumed for the purpose of radio-element mapping, or in discussing full series energy yields the terms eU (equivalent uranium) and eTh (equivalent thorium) are commonly used (IAEA, 1974, 1976, 1979, 1989, 1990, 1991). Since natural uranium is 99.28% ^{238}U and 0.72% ^{235}U, both uranium series contributions may be considered together for many purposes.

Nuclide	Half Life	Mean Energy per parent decay / MeV			Daughter
		Alpha	Beta	Gamma	
^{235}U	7.04 x10^{8} a	4.38	0.042	0.156	^{231}Th
^{231}Th	1.063 d		0.173	0.029	^{231}Pa
^{231}Pa	3.28 x10^{4} a	4.92	0.048	0.0399	^{227}Ac
^{227}Ac	21.77 a	0.673	0.125	0.00017	^{223}Fr 1.2% ^{227}Th 98.8%
^{227}Th	18.72 d	5.83	0.053	0.110	^{223}Ra
^{223}Fr	21.8 m		0.0047	0.00076	
^{223}Ra	11.43 d	5.70	0.073	0.135	^{219}Rn
^{219}Rn	3.96 s	6.81	0.0064	0.056	^{215}Po
^{215}Po	1.78 ms	7.39			^{211}Pb
^{211}Pb	36.1 m		0.452	0.0684	^{211}Bi
^{211}Bi	2.14 m	6.55	0.0099	0.0467	$^{207}T1$ 98.68% ^{211}Po 0.32%
^{211}Po	25.5 s	0.024	0.0004	0.0046	^{207}Pb Stable
^{207}Tl	1.3 s		0.493	0.00288	
TOTAL		42.277	1.48	0.649	

Table 1.2 ^{235}U decay series and energy release data

In energy release terms the two uranium series produce more alpha radiation than beta, and more beta radiation than gamma radiation. By contrast the ^{232}Th series, while also dominated by alpha energy release, produces relatively less alpha than beta+gamma energy, and more gamma than beta energy.

The concentrations of the parent radioelements, K, U and Th vary widely in rocks and soils according to their geological origins. K concentrations typically range from 1-5 % by weight, although exceptions outside this range are known, with an average value of some 2 % (IAEA,1990). Uranium and Thorium can vary from less than 1 ppm to several hundred ppm in common minerals, typical uranium concentrations for common rocks being from 1-5 ppm and Th concentrations from 3-30 ppm. As a result environmental radiation fields, derived from the combined effects of terrestrial radionuclides and cosmic rays can exhibit considerable variations in both magnitude and types of radiation source.

Nuclide	Half Life	Mean Energy per parent decay / MeV			Daughter
		Alpha	Beta	Gamma	
^{232}Th	1.41×10^{10} a	4.00		0.00017	^{228}Ra
^{228}Ra	5.76 a		0.0292		^{228}Ac
^{228}Ac	6.13 h		0.479	0.993	^{228}Th
^{228}Th	1.913 a	5.40	0.02	0.0034	^{224}Ra
^{224}Ra	3.66 d	5.68	0.0022	0.01	^{220}Rn
^{220}Rn	55.6 s	6.29			^{216}Po
^{216}Po	0.15 s	6.78			^{212}Pb
^{212}Pb	10.64 h		0.175	0.145	^{212}Bi
^{212}Bi	1.009 h	2.17	0.502	0.107	^{208}Tl 36% ^{212}Po 64%
^{212}Po	45 s	5.622			^{208}Pb Stable
^{208}Tl	3.053 m		0.215	1.217	
TOTAL		35.942	1.422	2.475	

Table 1.3 ^{232}Th decay series

Nuclide	Half Life	Mean Energy per parent decay / MeV			Daughter
		Alpha	Beta	Gamma	
^{40}K	1.277×10^{9} a		0.455	0.157	^{40}Ca 89.33% ^{40}Ar 10.67%

Table 1.4 Decay of ^{40}K

A considerable amount of international effort has been expended on conducting uranium exploration surveys based on radioelement mapping, and it has been suggested (IAEA,1990) that the results of such exercises could be used to form a global database from which environmental base-line dose rates, and their variations can be established.

The dosimetry of human radiation exposure is to a large extent derived from natural sources in the environment, as indicated above. It's enumeration, however, depends on a combination of information on environmental levels of radioactivity with a dosimetric model, to partition internal and external components, and the incorporation of conversion factors to take account of radiation quality and, for external low-LET radiation, build-up and shielding factors. The need for alpha doses to be delivered internally, as a direct consequence of the short range of alpha particles, requires an inhalation or ingestion model, and results in highly non-uniform dose distributions within the body. Beta and gamma radiation may include both internal and externally delivered components. Although the variability of radiation exposure of the general population is difficult to assess, mean values and their composition have been estimated internationally (UNSCEAR,1988), and more recently for the UK population (Hughes et al, 1989). Table 1.5 summarises these estimates of the origins of mean dose equivalent rates. In both cases, despite some differences attached to individual components the mean estimates for total human dose equivalent rates are similar at some 2.5 mSv a^{-1}. Both estimates also imply that a major source of dose exposure is due to the inhalation of radon, and the subsequent internal energy deposition of it's daughter products. It should be recognised that the high weighting given to radon, which has recently been recognised in the UK, derives from the high quality factor (20) associated with alpha particles, and the relatively high alpha particle energy releases.

Source	Estimated Global Dose Equivalent Rate /mSv a^{-1} (UNSCEAR, 1988)		Estimated UK average Dose Equivalent Rate / mSv a^{-1} (Hughes et al, 1989)	
	Internal	External	Internal	External
Cosmic Rays		0.41		0.25
Cosmogenic		0.015		
Nuclides				
Primordial ^{40}K	0.186	0.41	0.3[1]	0.35
U series	1.24[2]		1.2[3]	
Th series	0.176[2]		0.1[4]	
Artificial				0.3
Total	2.436		2.5	

Table 1.5 Summary of the estimated global and UK sources of background dose to humans.

Notes:
1. Includes non-Rn derived internal components from U and Th
2. Includes all U and Th internal contributions
3. Radon and radon daughter derived contributions
4. Thoron and thoron daughter derived contributions

In summary therefore the terrestrial sources of natural radiation provide the major part of human radiation exposure, and are present in the environment in geochemically varying proportions. Alpha, beta and gamma radiation are all present and all contribute to the radiation exposure of the population, which comprises internal and external components. The internal component associated with radon and it's daughters is believed to be the single largest contribution. A microdosimetric model, including estimates of inhalation and ingestion rates is needed to relate environmental sources of exposure to individual dose equivalents received. However it is expected that variations in environmental sources will be reflected to some extent in the doses received by members of the population, who will in turn experience variable radiation exposure depending on individual circumstances.

1.2 Biological effects of exposure to ionising radiation

The biological effects of exposure to ionising radiation follow from the interaction of radiation with matter at a microscopic scale. Alpha and beta particles lose energy continuously along their tracks, creating a trail of ionisation. For alpha particles the rate of energy loss is high (high LET) leading to formation of 50,000 ion pairs per cell nucleus in tissue; for beta particles the lower rate (low LET) may lead to formation of approximately 50 ion pairs per cell nucleus. The ranges of alpha particles (typically 50-100 microns in tissue equivalent media) are such that biological effects are primarily delivered internally (eg following ingestion or inhalation), and these effects are localised to the proximity of the parent nuclide. For beta particles with ranges from several mm to several cm both internal and external effects are possible. Gamma rays, and X rays, interact stochastically with matter according to three underlying processes, which generally lead to the transfer of energy to secondary electrons at the point of interaction. Thereafter the behaviour resembles beta particles. Since gamma and X rays are more penetrating, their contribution to external exposure is greatest, although ingested activity can also irradiate the body.

At a cellular level the effects can be considered as direct effects, and indirect effects. The former comprise direct formation of ion pairs; the concentration of ion pairs per cell depends on the LET per track, and the no. of cells affected at low dose (where track overlap within the cell is unlikely) is proportional to the radiation dose. Indirect effects arise from the diffusion and subsequent reactions of free radicals and excited molecular fragments. The indirect effects provide a potentially important mechanism for damage to occur to at certain sensitive sites of important biochemical molecules such as DNA, without direct interaction taking place at these molecular locations. Ionisation and radiation damage to tissue thus take place at a rate which depends on the applied dose, which mainly controls the concentration of ionising events. At high doses or dose-rates, where the probabilities of multiple interactions within small biochemical structures increase, the possibility of non-linear dose effects arises. For low LET radiation this may occur at local doses of 1 mGy; for high LET radiation multiple tracks per cell may require over 250 mGy, however the indirect effects of the large numbers of ion pairs per track lead to greater dose sensitivity.

The consequences of radiation exposure have conventionally been divided into acute and stochastic effects. The former, which are essentially direct consequences of exposure, occur at high doses. Examples include loss of red blood cells (observable from 0.5 Gy upwards), intestinal damage with nausea and vomiting (doses above 1 Gy), erythema above 3 Gy, and lethal effects for which the 50% probability occurs at a dose of 4 Gy. Stochastic effects by contrast are clinical effects whose probability is a function of radiation dose, but whose severity is not a direct function of the applied dose. These occur as a result of exposure to moderate and low radiation doses, at rates which have been estimated as a result of epidemiological studies. Induction of malignancies, including leukaemia, by radiation may be accompanied by a latency period; furthermore the delayed risk may eventually recede with time. Clearly radiation damage leading to cell-death, and correctly repaired radiation damage are not the precursors of malignancy; rather precursors derive from directly damaged or incorrectly repaired cells which survive and can proliferate at a later stage. The interaction between radiation and other biological or environmental processes appears to be an extremely likely part of the mechanisms at work in development of radiation induced cancers.

The risks currently associated with ionising radiation for example in underpinning ICRP or NRPB assessments are not derived from a fundamental model of the radiobiological consequences of exposure. Rather they are derived from statistical studies of cohorts of relatively small numbers of people, subjected to short term exposures to high radiation doses. The most important cohorts are the Japanese Atomic Weapons Survivors (Shimuzu et al, 1988, Kato et al,1989), therapeutically irradiated groups such as the Ankylosing Spondylitus (Darby et al, 1985,87), Uranium miners (Ellett & Samet, 1989), Radium Workers and Thorotrast patients (Mays, 1989). In addition to the formidable problems of accurate retrospective dosimetry for such groups there are a number of well known problems associated with extrapolating stochastic risks to low doses. These include uncertainties concerning: (i) the validity of linear association between dose and risk, (ii) the effects of varying dose rate in continuous exposures, (iii) the validity of cross cultural extrapolation and for the Japanese cohort (iv) the effects of survivor selection and traumatic shock on general health (Little & Charles, 1990, Stewart et al, 1990). Nevertheless these studies do form the basis for international recommendations for occupational and public dose limitation (eg ICRP,1990). It is further notable that the recently revised dosimetry of Hiroshima and Nagasaki, together with new epidemiological evidence and the adoption of a multiplicative risk model (ICRU, 1990) has led to increased estimates of the risks of radiation induced detriments. Current mortality risk estimates based on Japanese bomb survivors are equivalent to 2.94 excess deaths per 10^4 person-year Gy (PYGy) for leukaemia, and 13.07 per 10^4 PYGy for all cancers. For effects induced by low LET radiation these risk coefficients may be significantly overestimated.

1.3 The association between radiation exposure and leukaemia

Clear evidence that exposure to ionising radiation can induce leukaemia comes from (i) studies of children irradiated in-utero (Stewart et al 1958,1970), from atomic bomb survivors, which provides important evidence of latency (Kato et al ,1989), from external radiation (Darby et al 1987), and from thorotrast exposures (Mays, 1989). Radium dial painters apparently suffered from bone sarcomas, and the predominant effect of radon exposure to uranium miners appears to be lung or bronchial cancer.

Studies of low dose health effects outside the UK have been reviewed by Rose (1989). Of the 44 surveys investigating leukaemia considered, there were 12 significant positive association with radiation, and one negative association. None of the other studies showed significant effects. The 13 significant studies comprised 3 studies of natural radiation, 3 of nuclear weapons fallout, one from uranium extraction, 3 from nuclear re-processing sites, 2 from nuclear power stations and one research reactor. It should be stressed here that many of these studies were regarded as having internal inconsistencies or severe methodological limitations which cast some doubt on the possibility of a causal association with radiation. However after critical examination Rose (1989) considered that only one of these studies showed a clear indication of a radiation induced effect. This was due to ^{226}Ra in groundwater and drinking water in Florida, and showed a significant link between Ra and both acute myeloid leukaemia and total leukaemias (Lyman et al, 1985). Radium is a bone seeking element, and this could be significant since interaction with red cells in bone marrow may be important an aetiological factor for leukaemia.

Henshaw (1990) has argued that there may be an association between radon exposure and acute myeloid leukaemia, comparing national incidence data with national domestic average radon concentration estimates for 16 countries. The association must be treated with considerable caution since the standards of reporting of disease may vary from country to country, and domestic radon levels will vary widely within each country. Furthermore the mechanism proposed by which inhaled radon then delivers a dose due to daughters to the marrow requires an alpha quality factor of 50-200 compared with the current ICRP value of 20. Also as pointed out above leukaemia does not appear to be recognised as a strong radiation induced condition amongst uranium miners who have been exposed to substantial levels of radon. Nevertheless the hypotheses arising from this suggestion are important since radon delivers a major proportion of a typical background dose to the human population.

In recent years there has also been considerable interest and concern about the existence of clusters of leukaemia and their potential association with nuclear sites (e.g. Cook-Mozaffari,1988, Darby & Doll, 1987, Gardner, 1989, Gardner et al ,1990a, 1990b, Stather et al, 1984,1988, Wheldon, 1989, McLaughlin et al, 1993, Parker et al, 1993, Kinlen, 1990, HSE, 1993). The existence of local clusters does not appear to be confined to the vicinities of nuclear sites, although there are nuclear sites in the vicinity of some clusters. The possibility of a connection between paternal preconceptual radiation exposure and childhood leukaemia at Seascale has been suggested (Gardner, 1990); however subsequent evidence has not resolved the apparent conflicts between this suggestion and the geographical and temporal distributions of the cancers (Parker et al, 1993). The suggestion that an infective agent may be responsible for clustering in new towns (Kinlen, 1990) does not appear to be borne out by the Seascale cluster (HSE, 1993) whose origins remain obscure. The difficulties in attempting to relate excess leukaemia incidence to specific nuclear sites are largely a consequence of the small numbers of cases identified around individual sites, which themselves are deliberately located in areas of low population density.

As observed above radiation risk estimates derived from high dose exposure of a small population may not be directly relevant to assessing the effects of low dose continuous exposure to sources at natural radiation levels. Yet the studies of low dose effects have tended to produce inconsistent results, as a consequence of the small study sizes and other methodological inconsistencies. The importance of understanding the low dose interaction between natural radiation exposure and the general population lies, not only in attempting to resolve it's possible role in leukaemia incidence. There would also be considerable benefits for setting public and occupational radiation protection limits on the basis of risk estimates derived from studies at the dose rates close to natural levels. "One of the largest uncertainties in the estimation of the probability of cancer induction at low doses is

extrapolating the risk factors derived from the Japanese A- bomb survivors to the low-dose, often low dose rate circumstances (eg a few mGy per year) most often encountered m routine radiation protection ... It would be extremely valuable if quantifiable information were available in human populations directly for low dose exposure" (ICRU, 1990, B138).
The scale of such studies would need to be large, since the radiation risk estimates for leukaemia are low. If the risks of radiation induction have been grossly underestimated, then smaller scale studies may yield some diagnostic results. However even if a tenfold increase in risk were postulated, for example to reconcile the risks of childhood leukaemias near some nuclear establishments with observed occurrences, it would still follow that studies of over 10,000 km^2 and population groupings of 10^6 individuals would be needed to establish links with any confidence. For this reason a new approach to estimation of environmental dose rates is needed, to permit possible extension to large scale, low-cost surveys covering large population groups.

1.4 Principles of aerial radiometrics

Aerial gamma ray spectrometry, when large scale spectrometers are operated from aircraft is a special case of in-situ gamma spectrometry. As a detector is raised above ground level, attenuation and scattering of gamma rays modify the radiation spectrum, but do not prevent the measurement of distinct signals from the main natural radiation sources (K, and U, Th series activity). However the field of view is substantially enlarged and this, coupled to the mobility of an airborne platform gives the method its particular strengths. Aerial methods are uniquely rapid, capable and economical for total mapping of large areas. Originally developed for uranium exploration and geological mapping, aerial radiometrics has received renewed attention from an environmental perspective following the Chernobyl accident.

Gamma rays can penetrate up to several hundred metres in air producing radiation fields which can be mapped using sensitive spectrometers operated from aircraft. Thus the distribution of gamma emitting nuclides whether airborne, terrestrial, natural or anthropogenic can be estimated. For effective and economic use of aircraft, the detectors used are capable of making measurements in short counting times, of the order of a few seconds or less. This, coupled to the mobility of the observational platform, gives this technique a unique capability for mapping large areas of the environment.

The essential features of a spectrometer for aerial survey applications are a high sensitivity radiation detector, usually a large volume scintillation spectrometer, ancillary components for signal processing, and a system for recording spectra and other information at selected intervals during flight. The equipment must be housed in a suitable manner for safe mounting and operation in an aircraft, with all necessary approvals from aviation authorities.

A typical system comprises an array of prismatic NaI detectors, each of l0xl0x40 cm dimensions and viewed end on by a single 3" diameter photomultiplier tube. By using graded MgO reflectors, and careful matching of crystal to mount, manufacturers can achieve energy resolutions of 8 % or better, as the full width at half maximum (FWHM) of the 662 keV ^{137}Cs peak, expressed as a percentage of peak energy. This represents a considerable improvement compared with cylindrical scintillators viewed axially by multiple photomultipliers. Such detectors are usually packed in sets of two (8 litres NaI) or four (16 litres NaI), in thermally insulated cases with summed outputs for spectral analysis. Internal heaters may be used to maintain stable operation at high altitudes. Systems of 16 or 32 litres are suitable for use with light helicopters.

Developments in nucleonics, satellite navigation, rapid computer mapping and response modelling are currently extending the methodologies and applications. The use of small computers with integral pulse height analysers has reduced the size and cost of airborne spectrometry systems while considerably extending their capabilities. Automatic real-time labelling of spectral data with latitude, longitude and altitude, utilising satellite navigation and radioaltimetry respectively, provides all the information needed to produce maps automatically.

The recording technique adopted in flight consists of recording a series of pulse height spectra sequentially with integration times ranging from 0.5 s to several seconds, and logging navigational position and height above ground. For purely radiometric surveys, particularly for emergency response systems, it is preferable to record the position and height above ground in a single set of records interleaved with spectral data. This simplifies quality assurance checks during flight reconstruction, and a single pass search and interpolation through the data set is a sufficient basis for rapid generation of maps. The recent availability of global positioning system (GPS) satellite navigation in low-cost instruments has made such integrated approaches to data recording and subsequent processing considerably easier than hitherto.

Choice of survey altitude, flight line spacings, flight speed and integration time depend on the spatial resolution and sensitivity required, and are balanced with time constraints and flight budgets. Exploratory surveys may take place at altitudes of 150-200m, and line spacings of several km. Detailed work will usually involve flying at 75-150 km h^{-1}, and 50-100m altitude with line spacings from a few hundred m. to 1 km. The sensitivity and spatial resolution of a given survey depends on the detector efficiency, the flight altitude, speed and the integration time selected for spectral data. For effective use of the aircraft and optimal sensitivity the integration time should be approximately matched to the detector field of view. Dividing the data stream into spatial units which are much smaller than the field of view, degrades counting statistics, without adding meaningful spatial resolution, whereas the use of extremely long integration times reduces spatial detail and results in ineffective use of aircraft time.

Quality assurance steps during aerial surveys include daily resolution checks with ^{137}Cs sources, and continuous spectrometer gain monitoring. An important feature of well calibrated aerial gamma ray surveys is that the results are directly comparable with ground based measurements using conventional field based spectrometers, thus it is possible to investigate specific features identified from the aerial survey results.

1.5 Objectives

Three areas of SW England were chosen for investigation, on primarily epidemiological grounds, by the LRF epidemiology unit in Leeds. Two areas, each of roughly 1000 km^2 were surveyed with 1 km line spacing, and a further area of 250 km^2 was surveyed with 0.5km line spacing. In addition to this transfer flights between each area were recorded at low precision with line spacing of roughly 5-10 km, together with transect data along the full length of the Devon and Cornwall peninsular, and during the return flight to Scotland when possible.

The specific aims of the study were:

i) to provide detailed background radiation maps, and archival records, for the survey areas using aerial gamma ray spectrometry

ii) to assess the degree of spatial variability in natural radiation fields

iii) to develop methodologies to relate radiometric data to incidence distributions for epidemiological studies

iv) to conduct a preliminary assessment of the relationships, if any, between incidence distribution data for certain leukaemias and the natural radiation background

v) to formulate hypotheses for future studies.

It was recognised at the outset that the statistical power of any comparison between incidence data and the radiometric variables would be limited for the following reasons:

a) the finite areas surveyed,

b) the modest population within the survey areas,

c) the small number of cases of leukaemias recorded as a consequence of the rarity of the diseases and the limited time range (5 years) from which incidence data were available in this study,

d) the possibility that the locations associated with the majority of the population do not span the full range of radiation variables,

e) the limitations of using environmental data as a surrogate for personal radiation exposure.

Nevertheless despite these limitations, which are not unique to this approach, this methodology does provide the basis for an objective and quantitative discussion of the influence of the natural radiation environment on the epidemiology of leukaemia and other conditions. Furthermore it would be feasible to extend this work to cover sufficiently large areas and population groups to enhance statistical power, perhaps even to cover the general population of the UK. As pointed out by Reissland (1983) studies of natural effects in 10^4 or even 10^5 people over some 40 years, which represent the extreme limits of practicability using ground-based domestic measurements, would not be justifiable unless radiation risks were more than $2x10^{-6}$ a^{-1} mSv^{-1}. The use of radiometrics thus would appear to be the only possible means of addressing the influence of natural radiation exposure on the general population.

2. RADIOMETRIC SURVEY

2.1 Survey Specification

Presurvey planning comprised definition of the target flight lines and scheduled timings which were marked on a series of 1:50000 OS survey maps covering the three grids chosen by the LRF epidemiology unit in Leeds. The criteria used for selection were (i) relatively high rates of myeloid leukaemia, (ii) a disparate settlement pattern and (iii) diversity of geographical features. "The resultant areas were a pragmatic compromise between a desire to survey an area with as large a population as possible, and the constraints over funding" (Cartwright, pers comm 1991). A suitable fieldbase was identified, close to Taunton, and arrangements made for helicopter charter and operation with local fuel stores.

2.1.1 Definition of Survey Area

The three grids surveyed were:

Grid 1: a 15 km x 60 km block, orientated east-west from Wellington to Yeovil,
Grid 2: a 12.5 km x 20 km block encompassing the immediate surroundings of Bridgwater
Grid 3: a 35 km x 29 km block in the vicinity of Plymouth and the Tavy and Tamar estuaries.

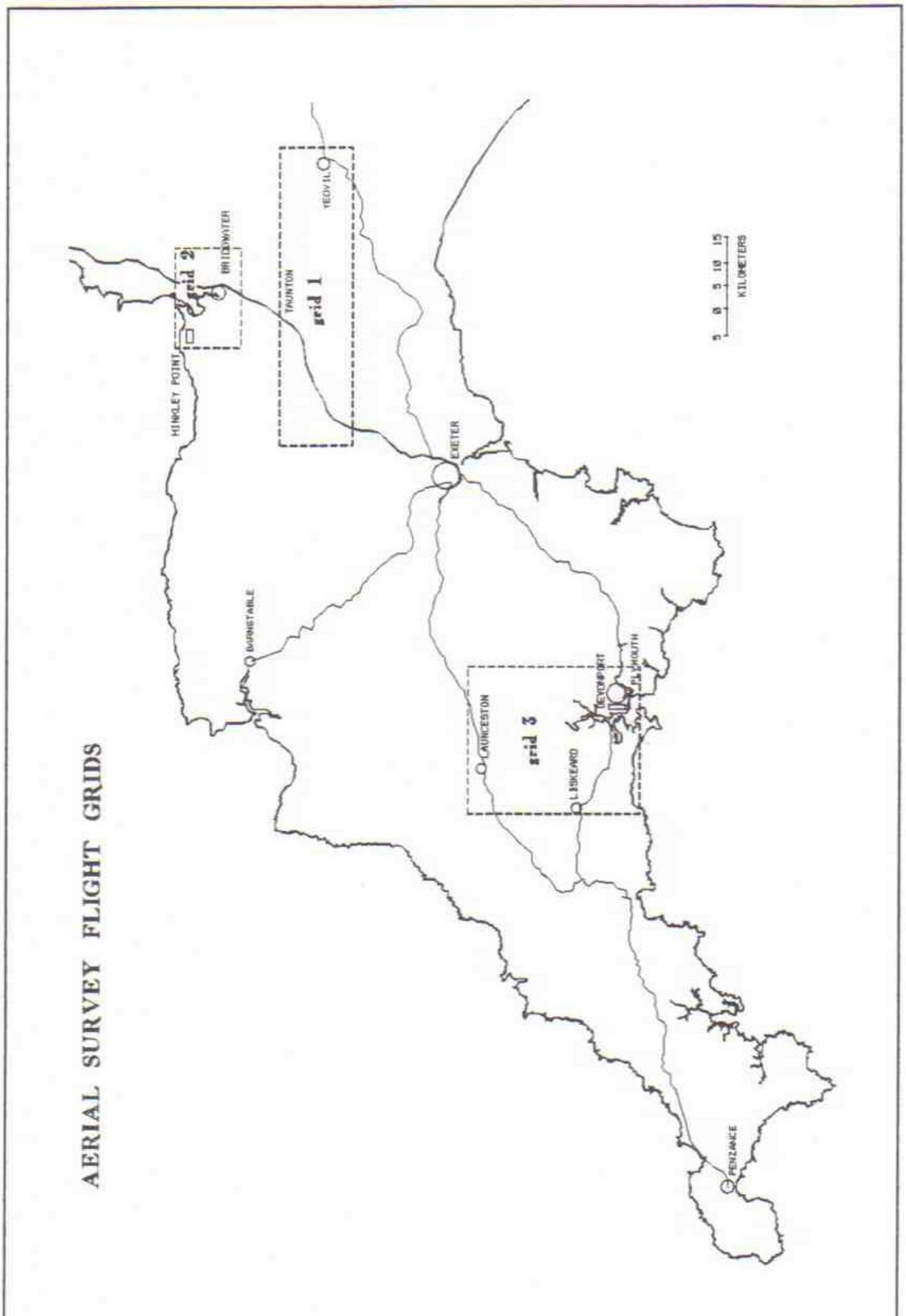
Grid 1 has ordnance survey (OS) references of ST 000100, ST 000250, ST 600100 and ST 600250 as its corners. It's main population centres are Wellington, southern Taunton, Ilminster and Yeovil. It comprises a varied landscape, with the Black Down Hills being the most prominent geological feature and has a high rural population engaged in diverse agricultural activities. There is a major Navy airfield at Yeovilton and several other military camps and installations are also located in the grid. Yeovil, Taunton and Wellington have some industrial activities including the Westland Helicopters plant at Yeovil.

OS references for Grid 2 were ST 200350, ST 200475, ST 400350 and ST 400475 as its corners. It includes the immediate surroundings of the Hinkley Point nuclear power station, the town of Bridgwater and part of the King's Sedgemoor system of extensive drainage ditches running into the river Parrett and its estuary.

Grid 3, located south-west of Grids 1 and 2, was defined by OS references SX 250520, SX 250870, SX 540520 and SX 540870. The principal towns in the region are Liskeard, Launceston, Tavistock, and the surroundings of Plymouth. Geological features of interest include the Tamar and Tavy rivers and their estuaries, the granite masses at the eastern edges of Bodmin Moor and the western fringe of Dartmoor. A number of former mining and mineral processing sites are contained within this grid.

The general locations of all three grids are shown overleaf in figure 2.1

Figure 2.1 The survey areas.



2.1.2 Radiation Variables

In addition to recording the full gamma ray spectrum a set of integrated energy windows were defined to estimate the concentrations of 5 radionuclides and the gamma dose rate. For this survey windows were chosen to correspond to the two radiocaesium nuclides ^{137}Cs and ^{134}Cs, the U and Th series daughters ^{214}Bi and ^{208}Tl and to ^{40}K. The radon daughter concentrations can be used to estimate uranium and thorium concentrations respectively, assuming that the decay series is in secular equilibrium. They are, hence referred to as equivalent uranium, (eU) and equivalent thorium (eTh) (IAEA, 1976,1979,1989,1990,1991). The radiocaesium nuclides, which characterise the Chernobyl fallout, were not significant with respect to background and more importantly did not show any spatial variability. They were therefore not processed any further as discussed in section 2.3.3 below. However as pointed out above (section 1.1) the use of spectrometric data for the natural sources can provide information about the relative amounts of alpha and beta energy corresponding to the natural radioelement concentrations. Since the relative concentrations of U, Th and K vary geographically, so do the relative proportions of alpha emitters (from U and Th series) and beta emitters (from U, Th series and K). It was decided to calculate infinite matrix dose rates for alpha and beta radiation, corresponding to the parent radioelement concentrations, in order to assess the extent to which radiation quality may vary spatially, and the varying importance of U series alpha activity (which include ^{226}Ra and ^{222}Rn) to the overall environmental alpha sources.

2.1.3 Flight Parameters

The basic survey method comprises accurate low level flying along survey grid lines, while recording a continuous sequence of radiometric readings, radioaltimetry data (giving height above ground) and latitude and longitude positions derived from radio beacon navigation aids. Raising a detector above the ground opens up the detection geometry, so that the area of ground surveyed rapidly increases. The field of view of an airborne gamma ray detector for natural radionuclides is such that approximately 90% of the signal observed originates from within a circle of diameter 4-5 times the height above the ground. However, the increase in the area of detection gained by elevation must be balanced against loss of sensitivity due to increased attenuation and scattering in the intervening airpath. The sensitivity of an airborne gamma spectrometer also depends on integration time and detector volume. Standard SURRC practice is to choose a forward flight speed, and integration time such that the distance travelled for each gamma spectrum from the principal NaI detector is approximately equivalent to the dimensions of the field of view. This leads to economic and safe use of the aircraft, while maximising detector precision.

For this survey a nominal altitude of 100m and 120 kph forward speed were used throughout. The 16 litre principal NaI detector was integrated with a 10 second live time, and the smaller 8 litre detector recorded asynchronously each 30 s. The corresponding forward distances per measurement were 300m and 1 km respectively, and the lateral 90% fields of view corresponded approximately to 400-500m dimensions.

The surveys of grids 1 and 3 were specified with 1 km line spacing. The line spacing is thus twice the field of view, and therefore the surveys provide a nominal 50% areal sample of the underlying area. Flight lines were oriented EW in Grid 1 and NS in Grid 3 for optimum flight efficiency and topographic reasons. This provides in excess of 200 readings from the 16 litre detector per l0xl0 km square.

For grid 2 flight lines 500m apart were again set EW and flown with 500m resolution down the line. This approaches total area survey, expressed as the sampled fraction, and corresponds to more than 400 readings per l0x 10 km square.

These sampling densities can be compared favourably with those achieved in ground based investigations. For example, the national gamma ray survey conducted by NRPB (Green et al, 1989) compiled over 3000 ground based dose readings corresponding to a single sample from each l0x 10 km square in the UK. Since a ground based detector produces a signal averaged over some 10^2 m^2 at most, this represents an areal sampling fraction of 10^{-6}.

2.2 Fieldwork

2.2.1 Detector description

The detector and nucleonics used for this survey represented a considerable advance on the original systems used in previous studies (Sanderson et al, 1988, 1989a,b, Sanderson & Scott, 1989). The earlier work was based on a single NaI crystal with 7 litre volume and 15 % energy resolution, originally used for whole body monitoring at East Kilbride. This was coupled to a battery powered multichannel analyser capable of isolating and recording energy windows corresponding to the main full-energy peaks of interest, but not capable of recording the full data spectrum from the detectors.

The SURRC gamma spectrometer used for this survey comprised a 24 litre NaI detector array, a custom built high precision power supply, a data logging computer containing a pulse height analysis system and facilities for logging navigational data and height above ground from radioaltimetry. Latitude and longitude were recorded from a Decca radio beacon receiver and decoder installed in the aircraft.

The detector array was composed of two arrays of 2x4 litre and 4x4 litre crystals making subassemblies of 8 and l6 litres respectively. These 4 litre NaI crystals were acquired from a Canadian source in May 1989. Each individual crystal had 8% energy resolution at 662 keV and subassemblies were trimmed to give a composite energy resolution better than 12 %. The detector geometry corresponds to the modern international standard specifications (IAEA,1991, IEC, 1992) for geological mapping; the instrumental and data logging approaches used however incorporate some advanced features drawn from developments in environmental and emergency response applications of aerial survey techniques.

The summed outputs from each detector assembly were fed into individual computer-based 2K channel pulse height analysis cards (Ortec 916) in the data logging computer. This enabled the introduction of full multichannel spectral recording at periods down to 10 seconds for each of the two detector subassemblies, as well as integrating count rates in preselected energy regions, corresponding to the nuclides selected for investigation, and to an estimate of the total gamma ray dose rate. The adoption of a distributed architecture for the pulse-height analysis system enabled the main data logging computer to synchronise the recording of gamma spectra with radioaltimetry and positional information. In addition real-time displays of net count rates in the integrated energy windows, and a continuous gain monitor, based on the position of the ^{40}K full energy peak at 1.462 MeV, were available to the operator. All data were recorded on hard disc during flight, and downloaded after each day's survey.

Energy regions chosen for integration during the flights were pre-selected, and initial estimates of stripping coefficients for them determined in the laboratory using a series of spectrally pure reference sources prior to the survey. The windows chosen are shown in table 2.1.

Window	Energy/MeV
^{137}Cs	0.54-0.76
^{134}Cs	0.73-0.885
^{40}K	1.32-1.63
^{214}Bi	1.63-1.93
^{208}Tl	2.37-2.93
Gamma Dose Rate	> 0.45

Table 2.1 SURRC window limits for determining ^{137}Cs, ^{134}Cs, and natural sources.

The slightly broader windows around the natural peaks provide greater gain stability and lower stripping ratios to Cs channels than standard IAEA (1991) windows.

2.2.2 Installation, testing and deployment

Extensive laboratory bench tests were conducted to ensure that the spectrometer was in good condition before the survey, that each individual detector element was functioning correctly and was matched in gain to the other crystals in it's assembly. The acquisition software was configured for the survey, and tested. The spectrometer was installed in an Aerospatiale AS350B Squirrel helicopter, chartered from PLM in Inverness, at SURRC in East Kilbride on the 11th September 1989 and tested briefly on the ground.

On the 12th a short test flight was executed on a calibration site at Eaglesham Moor, some 10 km WSW of East Kilbride, in an area which had been the subject of earlier aerial and ground based gamma spectrometry. The aircraft was then flown to the fieldbase at Upper Ilbeare House in Norton Fitzwarren near Taunton with one team member on board. Data were recorded en-route from Scotland and along a line through part of the area of West Cumbria previously surveyed by SURRC in 1988, enabling a calibration process to ensure traceability of results from the new detectors. The rest of the survey team and a comprehensive set of spare equipment, including spare detectors and ground computing, was taken to the field base by vehicle. Three sets of supporting personnel also travelled by rail from SURRC to Taunton overnight to rotate the support team during the fieldwork period.

The fieldbase was established and further key preliminary measurements undertaken, including radioaltimeter calibration against barometric height, measurement of background readings, and definition of a standard flight test line on the following day. The survey itself commenced on the 14th September. The location of the fieldbase gave excellent access to grids 1 and 2 while grid 3 could be reached in 30-40 minutes flying time. The helicopter was operated from an adjacent orchard, local fuel supplies being established and replenished from Exeter or Plymouth airports using a truck.

2.2.3 Quality Assurance and Recording techniques

Before each day's flights the detector performance was rigorously checked. Energy resolution at 662 keV was measured using a 370 kBq ^{137}Cs reference source, and was maintained at approximately 12 % (662 keV fwhm), by trimming individual detector gains as necessary. Similarly the peak to value ratio of ^{60}Co was recorded at the start of each day. The overall spectrometer gain was set to a standard value at the start of survey and continually monitored using the position of the ^{40}K natural peak at 1462 keV. Small adjustments to EHT were made during the flights to correct for minor thermal drifts as needed. Gain drifts were thus kept below 1 % throughout the survey.

During flights gamma ray spectra were recorded every l0s from the 16 litre detector, and every 30 s from the 8 litre detector, as described above. They were integrated to form spectral channels containing the gross count rates for ^{137}Cs, ^{40}K, ^{214}Bi, ^{208}Tl and an integral count rate representing the total hard gamma dose. Both full spectra and integrated count rates were recorded on hard disc during flights. Longitude and latitude coordinates were entered into the computer each 30 s. during flight, by the detector operator, from the Decca system on the aircraft. Radioaltimetry data were captured automatically through an interface to the computer and averaged during gamma ray measurement periods. Thus the data were labelled with height above ground and position at the time of collection. The central coordinates of each of the readings contained within an individual file (two readings from the 16 litre detector, one from the 8 litre detector) were calculated by interpolation of successive positional inputs. A second crew member assisted the pilot with navigation, using information from the spectrometer to control trajectory, ground speed, and altitude. This method of flight resulted in accurate survey, although it imposed considerable burdens on the pilot, and detector operators. Similar approaches were operated in subsequent surveys in Ayrshire and around Sellafield (Sanderson et al, 1990,1991); the traditional approach of reconstructing a flight path by retrospective interpolation of fiducial markers was employed, in the absence of instrumental navigation aids, in a survey in the Niger delta in 1991 (Sanderson & Allyson, 1991). More recently the increased availability of satellite navigation (GPS) has permitted automatic recording of position for each reading, thus easing navigational and operational work-loads and providing the pilot with trajectory correction information (Sanderson et al 1992, 1993a,b).

At the end of each day's flights the complete data sets were transferred to duplicated archival discs before data processing began. The spectrometer hard disc was cleared for the following day's work after one set of the primary discs had been re-constructed on the ground based computer. In this manner the risks of data loss were minimised. The primary archive resulting from the fieldwork occupies 140 Mbytes of disc storage.

2.2.4 Field measurements

The three areas were surveyed successfully between the 11 th and 30th September. Surveying was conducted for a minimum of several hours each day, with the exception of statutory pilots rest periods and two days of unsuitable weather.

The survey altitude of 100m depends on CAA exemptions from normal aviation rules, which were obtained by PLM helicopters. In addition the survey zones included several restricted or controlled flying areas such as army ranges on the edge of Dartmoor, the Tor Beacon Gliding Club, the Nuclear Submarine Base at Devonport, the Westland Helicopter Airfield, Yeovilton Airbase, and the 5 mile restriction zone around the Hinkley Point nuclear power station. In each case arrangements were made with the controlling personnel to grant access, for which we are extremely grateful. It was not possible, on this occasion to arrange to fly over built up areas, though this has since been arranged for subsequent surveys using a twin engined aircraft.

The initial priorities were to map grids 1 and 2, which were within short flying times from the fieldbase and main fuel supply. Grid 1 was divided into 15 EW flight lines labelled LRF1A to LRF1O respectively from north to south. Each flight line was 60 km long, and a total of 120 numbered spectra were recorded from the principal detector. Flights were planned, so far as possible, to minimise the flight times to and from the grid. Sorties of some 2-2.5 hours were made between re-fuelling, recording as many complete flight lines as possible. The first grid was completed between 14th and 19th September, during which period 1800 gamma ray spectra were recorded from the 16 litre detector with a further 900 from the 8 litre detector.

Grid 2, which includes the Hinkley Point nuclear power station was divided into 26 EW lines, labelled LRF2A to LRF2Z respectively from north to south. Each line was 20 km long, and a total of 40 gamma spectra per line was recorded from the 16 litre detector. The area around the Hinkley Point power station was flown cautiously, with permission from Nuclear Electric, taking care to avoid overflying the grid terminals, and certain buildings with nuclear safety implications. In practice this meant skirting the site perimeter. The built-up area of Bridgwater was similarly circumnavigated. This survey was completed between 20-22nd September. Totals of 1040 spectra from the 16 litre detector and 520 from the 8 litre detector were recorded. A minor fault in the 8 litre detector was identified in the last line of grid 2; the affected data were excluded from further analysis, and the detector repaired over the 23-24th September.

At this stage a statutory inspection and 50 hour service of the helicopter was due. PLM helicopters sent an engineer to conduct the necessary work at Norton Fitzwarren over the weekend of 23-24th September to minimise disruption to the survey.

Before beginning the survey of Grid 3 consideration was given to the question of moving fieldbase to Liskeard. Instead, however a forward fuel dump was established SW of Launceton and used for refuelling every two hours during the working day, with transfer flights at the start and end. These transfer lines were offset at 5 km intervals and used to provide high speed (120 knots) preliminary data for the intervening area. Grid 3 was divided into 29 NS flight lines labelled LRF3A - LRF3Z plus LRF31 ,LRF32 and LRF33 from west to east respectively. Lines A to O have 70 spectra each from the 16 litre detector, whereas lines P to S have 54, and T to Z and 1-3 have 50 each; the eastern lines being foreshortened to avoid overflying the built up areas of Plymouth. An additional set of 204 spectra was recorded along the coastal fringes of Plymouth and the Tamar and Tavy Estuaries on 26th September. This included an overflight of the Devonport Naval Dockyard, with the permission of the Ministry of Defence. Grid 3 was completed on the 29th September, and resulted in 1970 spectra from the 16 litre detector and 985 from the 8 litre detector.

Altogether 50.4 hours of helicopter time were used to survey the grids and their associated linking lines, in keeping with our planned budget and fieldwork time. Over 4800 readings were taken with the 16 litre detector from an on-grid survey of some 2400 line km. This compares with the national sampling (Green et al,1989) of 3100 measurements taken over several years from the 250,000 km^2 of the UK landmass. Readings were also recorded on a short flight from Devon to Cornwall, and so far as possible on the return journey to Scotland at the end of the survey. We regard this as an exceptionally efficient operation; gratifyingly so in view of the remote location of the survey area relative to our laboratories.

2.3 Data Reduction and Analysis

The spectral records were subjected to a standard SURRC analysis comprising formation of summary files, subtraction of detector backgrounds, stripping spectral interferences, correction for altitude variations and calibration. In this form they represent direct estimates of activity concentrations and dose rates which can be used for analysis and mapping. The individual steps are described below.

2.3.1 Summary file formation

The first stage of data reduction was the formation of compressed summary files - each containing a single line entry for each spectral observation. Each entry comprises the filename of the full spectral record, the time of acquisition, latitude and longitude, altitude and 6 integrated count rates at preselected energy windows for ^{137}Cs, ^{134}Cs, ^{40}K, ^{214}Bi, ^{208}Tl and the total gamma ray dose rate above 450keV. Each line of survey data was initially assigned a single summary file immediately after landing. The summary files were printed out, and quality control checks for data integrity performed before the end of each day's fieldwork. An archival set of compressed data was thus formed before the end of the survey.

2.3.2 Background Subtraction

The second stage of data analysis was to link the summary files forming each survey grid together into area records of net count rate. Detector background count rates for each channel (recorded at high altitude and over clean water) were subtracted at this stage. The net summary files for each grid included a header section giving the values of background count rates subtracted, again for quality assurance purposes. Net files for all of the grids were prepared at the end of the fieldwork period.

2.3.3 Spectral Stripping

Spectral interferences occur with NaI spectroscopy due to the combined effects of unresolved full energy peak overlap (line interference) and Compton scattering, both in transport from source to detector and also within the detector. This leads to multiple contributions to net count rates within each integrated window, particularly when approaching background count rates. Laboratory measurements of the detector response to pure calibration sources are used to determine appropriate stripping factors to produce a matrix of fractional interferences. The matrix of interference ratios between each channel is assembled and inverted. Stripped counts for each channel are obtained by matrix multiplication of the inverse stripping matrix and a vector representing net count rates. Initial estimates of the stripping ratios for the nuclides present in the summary files were determined before the survey under ideal spectrometer settings, using laboratory sources. These values were measured in greater detail after the survey, with additional emphasis on evaluating the effects of small drifts in gain (within 1 %) and energy resolution (within 12 % at 662 keV). The stripping ratios selected for the 16 litre detector are shown below in table 2.2.

Window	^{137}Cs	^{134}Cs	^{40}K	^{214}Bi	^{208}T1
^{137}Cs	1	0.166	0	0	0
^{134}Cs	1.68	1	0.04	0	0
^{40}K	0.235	0.16	1	0.02	0
^{214}Bi	3.52	1.04	0.88	1	0.076
^{208}Tl	2.65	1.46	0.63	0.26	1

Table 2.2 Stripping ratios for the 16 litre NaI array using the windows defined in table 2.1.

The table indicates the fractional contribution which pure sources of the nuclide indicated in each row contributes to the windows indicated in each column. Measurements were made at the Scottish Universities Research & Reactor Centre.

The stripping ratios between the high energy natural sources (^{208}Tl at 2.62 MeV, ^{214}Bi at 1.764 MeV, ^{40}K at 1.462 MeV) are relatively well defined by laboratory experiments; however their scattered and full-energy peak contributions to the lower energy ^{134}Cs and ^{137}Cs windows are greater, and subject to some systematic uncertainties, as recognised in early SURRC surveys (eg Sanderson & Scott, 1989). These difficulties arise from the differences in source-detector geometry and photon scattering conditions between the laboratory experimental simulation of pure spectra from small scale reference sources, and the full scale of aerial survey geometry. Their systematic influence on aerial survey estimation of Cs can be limited by proper ground to air comparisons; however sensitivity to Cs at low concentrations is affected. The stripping matrix shown in table 2.2, using best available data in 1990, was suspected of overstripping the ^{137}Cs and understripping the ^{134}Cs channel. Since the survey area was not severely affected by deposition from the Chernobyl accident, these nuclides did not contribute significantly to the gamma ray spectra. For this reason, and because of the low, temporary and relatively uniform dose contribution from weapons testing fallout, neither Cs nuclide was considered further in this study. Subsequent work (Sanderson & Allyson, 1991, Sanderson et al, 1992, 1993a,b, Allyson,1993) has confirmed that the stripping factors from ^{40}K into both Cs windows are underestimated relative to field conditions. They can be improved by the introduction of absorbers between source and detector, or by Monte-Carlo simulation of the gamma ray spectrum at aerial survey heights. Fortunately the stripped data for ^{208}Tl, ^{214}Bi and ^{40}K are not significantly affected.

2.3.4 Altitude Correction and Calibration

Stripped count rates for ^{208}TI, ^{214}Bi and ^{40}K, were corrected for altitude variations using the same method as the SURRC survey of West Cumbria (Sanderson & Scott, 1989), having confirmed that this produced satisfactory results from 70-200 m. altitude using background test data. Thereafter, the corrected count rates were converted to Bq/kg using calibration coefficients determined from the Cumbrian and Eaglesham Moor calibration sites (Sanderson & Scott, 1989). The gamma dose rate was dealt with in a similar manner to the above; converting to mGy/a based on a comparison between aerial survey and ground based dose rate readings.

To achieve infinite matrix alpha and beta dose rate estimates, the activity concentration data were multiplied by infinite matrix dose conversion factors and summed.

The infinite matrix alpha and beta dose rates (mGy a^{-1}) were evaluated as

$$D_\alpha = 0.226 \text{ eU} + 0.182 \text{ eTh, and}$$

$$D_\beta = 0.0118 \text{ eU} + 0.00703 \text{ eTh} + 0.00273 \text{ K},$$

where eU and eTh and K are measured in Bq kg^{-1}.

Since unit mass of an infinite matrix absorbs the full amount of energy released, the conversion factors are simply derived from consideration of the energy release per parent decay in unit mass, per unit time. The calibrated data from the principal detector were stored as separate files for each grid, and are presented in numerical form in Appendix A. They were used to prepare histograms, scatter plots and summary statistics.

2.3.5 Mapping

Colour maps were produced shortly after completion of the survey for preliminary illustration of the results, and transmitted to the Leukaemia Research Fund. These were also presented to the International Symposium on the Aeteology of Leukaemia in March 1991, in London, together with preliminary epidemiological findings. Subsequently improvements have been made in computer generated colour mapping of aerial radiometric data, and therefore a decision was made to re-map the data for this report using the latest techniques.

Radiometric maps were produced from the calibrated data following standard procedures. The calibrated data files were read into the AERO program, and latitude and longitude coordinates transformed to OS grid references, which were also used as plotting coordinates. This produced an implicit set of x and y values for each observation. Thereafter the calibrated level for each nuclide was sequentially selected for allocation to the z variable. A new routine to allow concatenation of "XYZ" files was used at this stage to produce complete records for each nuclide individually covering the whole survey. These files can be read back into the mapping package directly as a quick entry point to mapping, and can also be exchanged with standard mainframe graphics packages.

The colour scales were next selected for each radiation variable. Up to 15 colour levels can be mapped and can be assigned to linear or logarithmic gradations. The range and intervals were selected from the histograms prepared for each variable, and colour codes attached to the raw data. Once colour-coded the individual data points were plotted in their appropriate colours, and positions on a high resolution VDU and then subjected to a spatial contouring procedure. Each screen pixel was replaced by the colour code corresponding to the average value of all data points within an 800m "neighbourhood", weighted inversely in proportion to distance from the implied position. Screen capture routines were used to store the resulting images, which were then printed using a Tektronix 4697 colour inkjet printer. Topographic detail was digitised from 1:50000 maps of the survey area using a CAD/CAM system, re-sized and overlaid reprographically onto the radiation maps. Radiation maps were produced for each of the radiation variables ^{40}K, eU, eTh, for the alpha and beta infinite matrix dose rates, and for the total gamma dose rates for Grids 1 and 2 together, and for Grid 3.

2.4 Results

2.4.1 Variations in radiometric data for each grid

Histograms of all radiation variables for each grid are shown in Figures 2.2 to 2.7. They demonstrate a considerable level of variability within each grid; indeed as much variability as observed throughout the whole of the UK in the NRPB study (Green et al, 1989). The eTh, eU and K contents typically vary by 4-5 times, as do the infinite matrix series dose rates. The observation that both levels and types of radiation may vary to this extent within limited geographical areas has significant implications for epidemiological studies.

Table 2.3 presents summary statistics for each grid confirming this degree of variation (as quantified by the coefficient of variation). It is clear that Grid 1 is inherently more variable than either grids 2 and 3, which demonstrate a similar degree of variability. Mean levels for all variables (with the exception of eU) are lower in grid 1 than in grids 2 and 3. The distribution of ^{40}K is more widely dispersed than that of either eU or eTh. Beta dose rates appear more variable than alpha or gamma. Mean values of outdoor gamma dose rates can be compared to NRPB (Green et al, 1989) average gamma dose rates for Somerset (38 nGy hr^{-1}), Cornwall (54nGy hr^{-1}) and Devon (47 nGy hr^{-1}) by multiplying by 0.00876 to convert to mGy a^{-1} giving values of 0.332, 0.473 and 0.411 respectively, impressively close given the methodological differences.

2.4.2 Demonstration of variation in radiation quality

Scatter diagrams of the eTh vs eU, K vs eU and K vs eTh for grid 1 are presented in figure 2.8. There are correlations between all three radioelements, those between eTh and eU, and also between eTh and K being stronger than that between eU and K. However a major proportion of the variation in each radioelement is not explained by the inter-element correlations. The implication of this variation in relative abundances of eTh, eU, and K is that the composition of the natural radiation sources, in terms of radiation types (alpha, beta, gamma) is also spatially variable. This arises because K only contributes beta and gamma radiation, and the alpha, beta and gamma contributions occur in different proportions from the U and Th decay series.

Figure 2.9 illustrates two aspects of the variations in the characteristics of radiation sources within grid 1. The proportion of alpha dose rate originating with the U series component can be seen to vary spatially by a factor of 2 from place to place. This may be significant for epidemiological studies in that the U series component is potentially radon associated, whereas the thorium derived component is considerably less dependent on thoron gas. Since any epidemiological association with alpha dose rate depends on an inhalation or ingestion route, the possibility of making tentative distinctions between gaseous and particulate components might be significant. Similarly the relative alpha to gamma component strengths can be seen in Figure 2.9 to show variations of a factor of three within the grid.

	Mean ± Standard Deviation (Coefficient of Variation)		
	Grid 1	Grid 2	Grid 3
^{40}K /Bq kg^{-1}	486±293 (60%)	647±267 (41 %)	631±250 (40%)
eU /Bq kg^{-1}	33.3±17.4 (52%)	31.5±13.6 (43%)	35.2±15.1 (43%)
eTh /Bq kg^{-1}	42.1±20.2 (48%)	45.3± 16.0 (35%)	49.8+ 18.6 (37%)
D_α /mGya^{-1}	15.1±7.3 (48%)	15.3±5.6 (36%)	17.0±6.3 (37%)
D_β /mGya^{-1}	2.0±1.1 (53%)	2.4±1.3 (53%)	2.5±1.3 (50%)
D_γ /mGya^{-1}	0.35±0.17 (48%)	0.47 ±0.15 (32 %)	0.47±0.15 (31 %)

Table 2.3 Summary statistics for each radiation variable in each grid.

Figure 2.2 Histograms of ^{40}K activity concentrations in grids 1,2 and 3

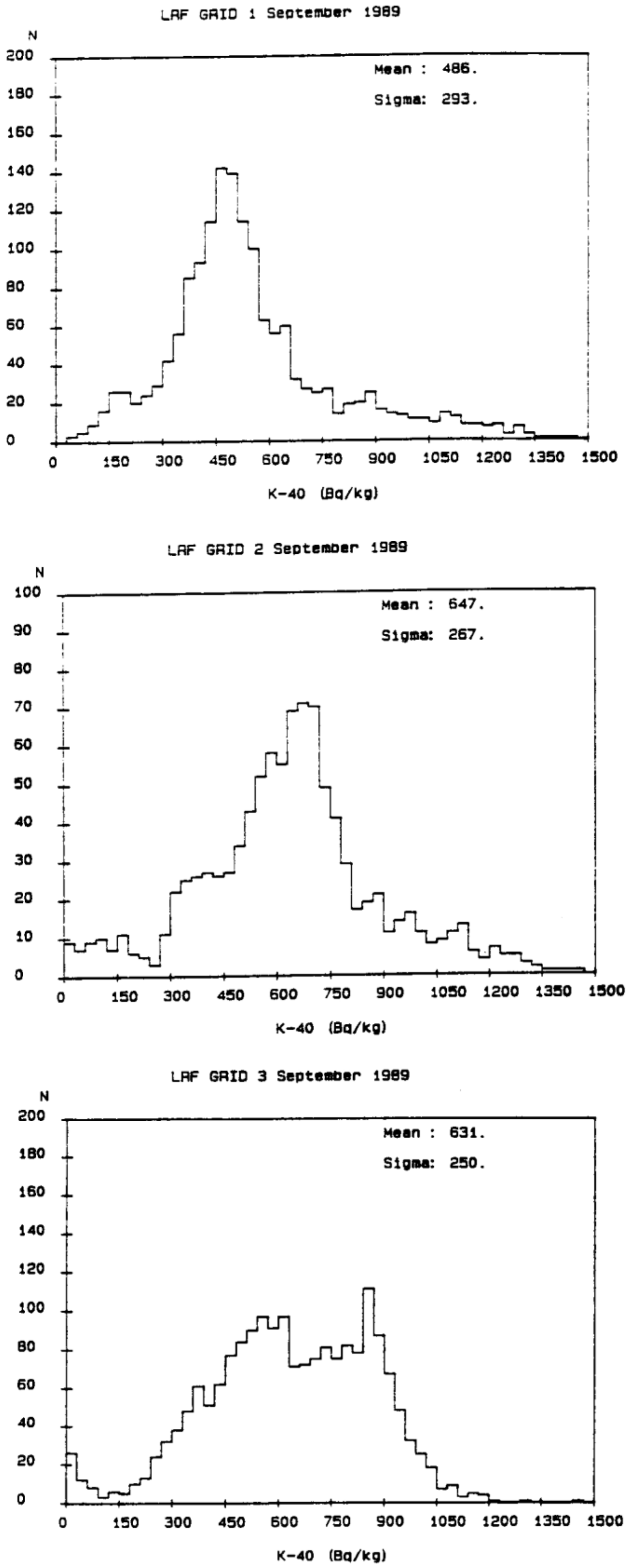


Figure 2.3 Histograms of eU activity concentrations in grids 1,2 and 3

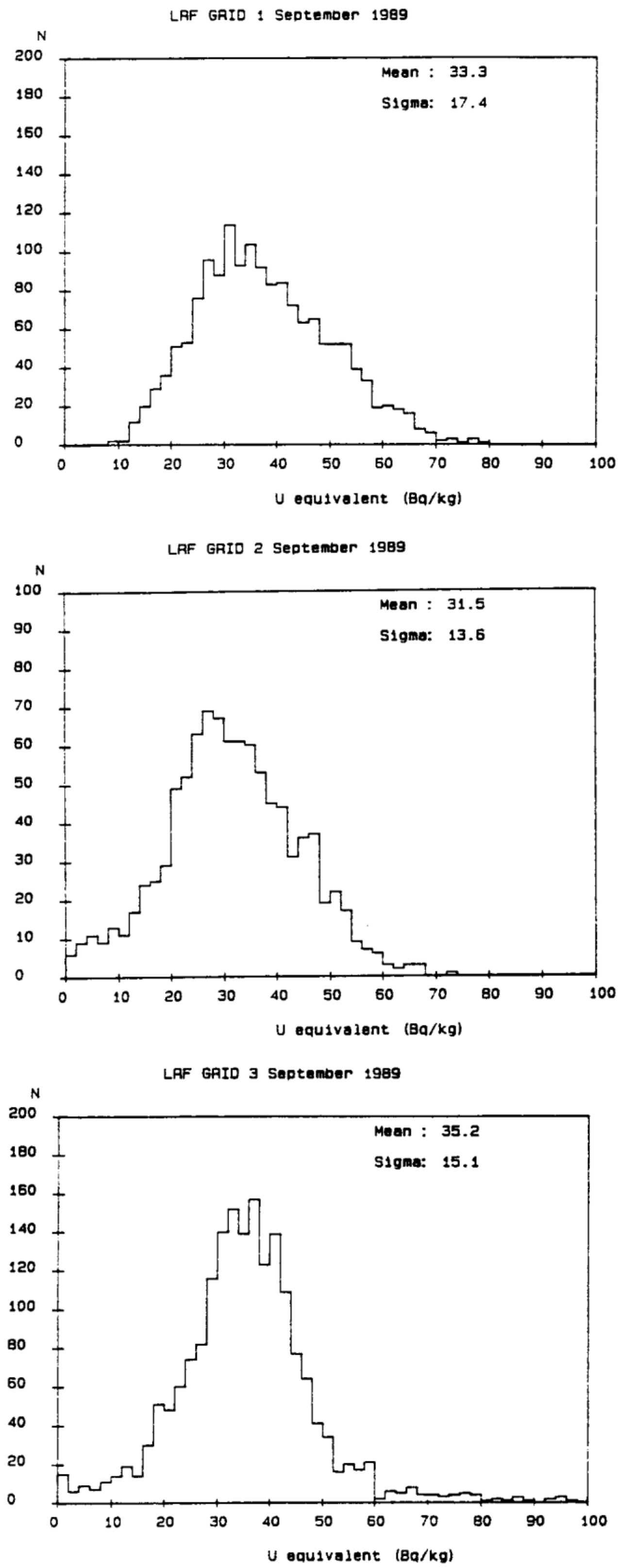


Figure 2.4 Histograms of eTh activity concentrations in grids 1,2 and 3

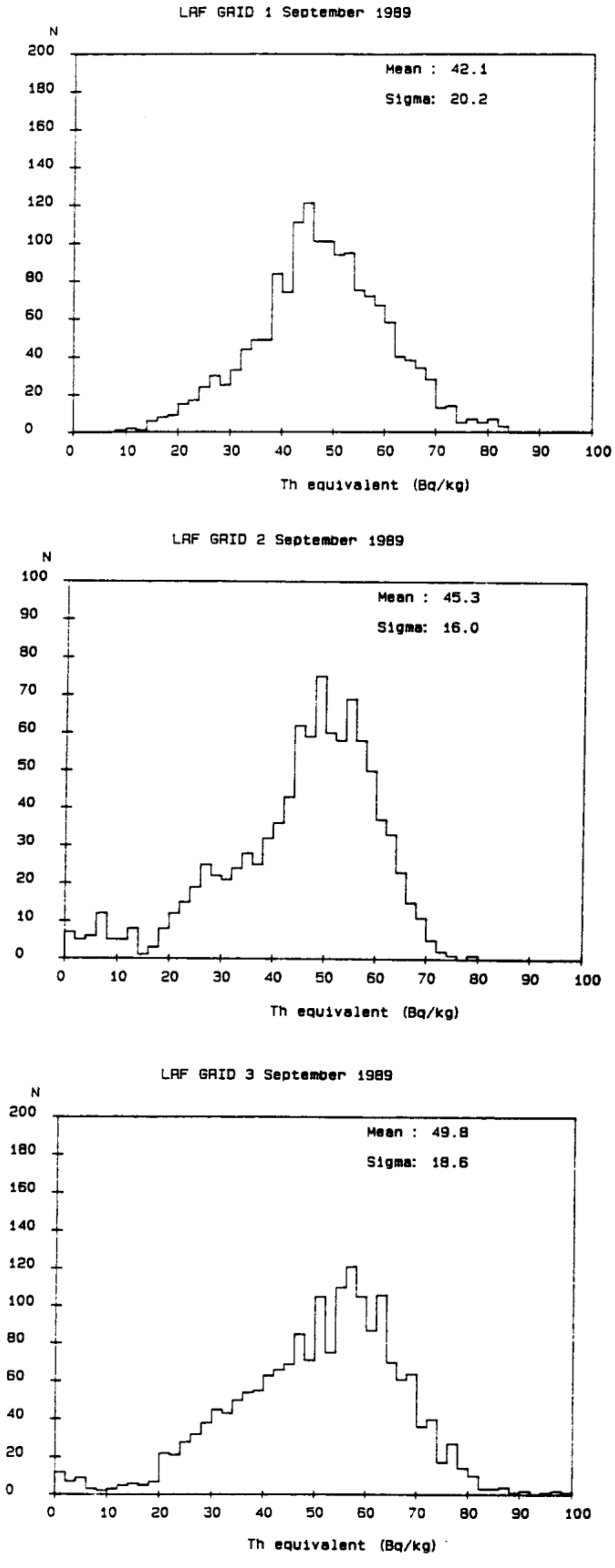


Figure 2.5 Histograms of the infinite matrix alpha dose rate in grids 1,2 and 3

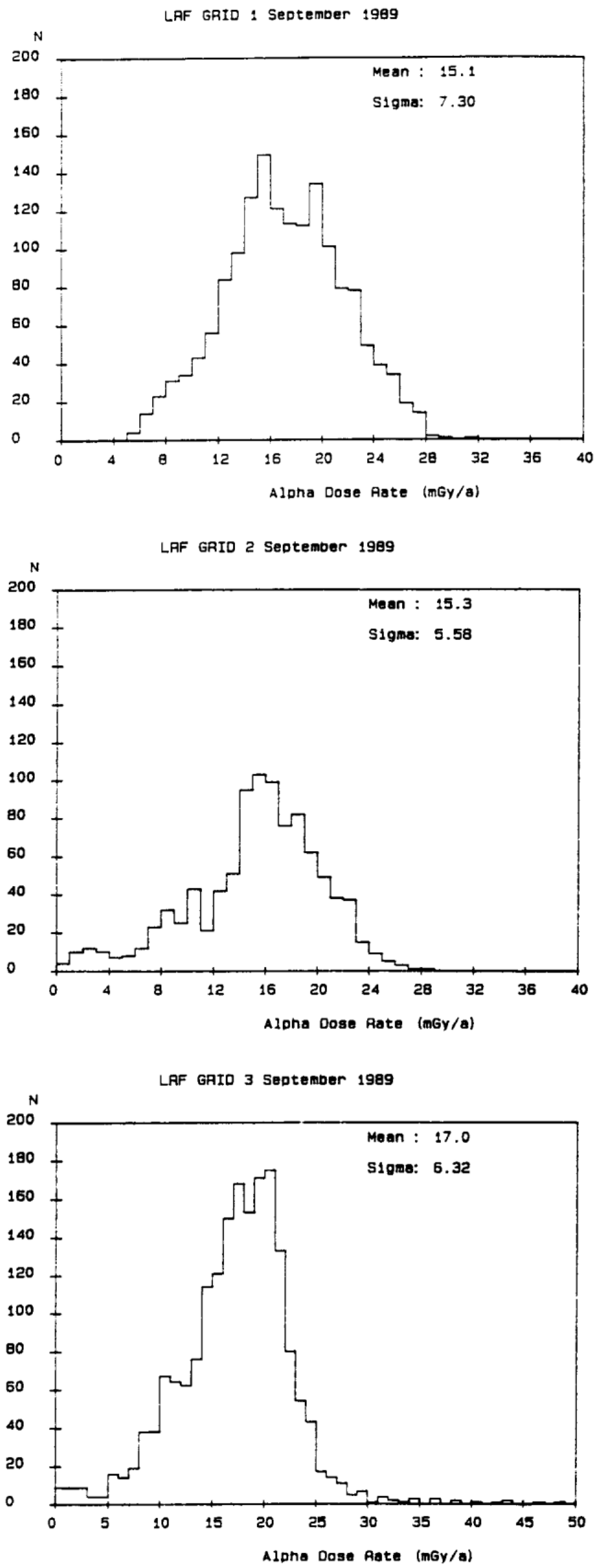


Figure 2.6 Histograms of infinite matrix beta dose rate in grids 1,2 and 3

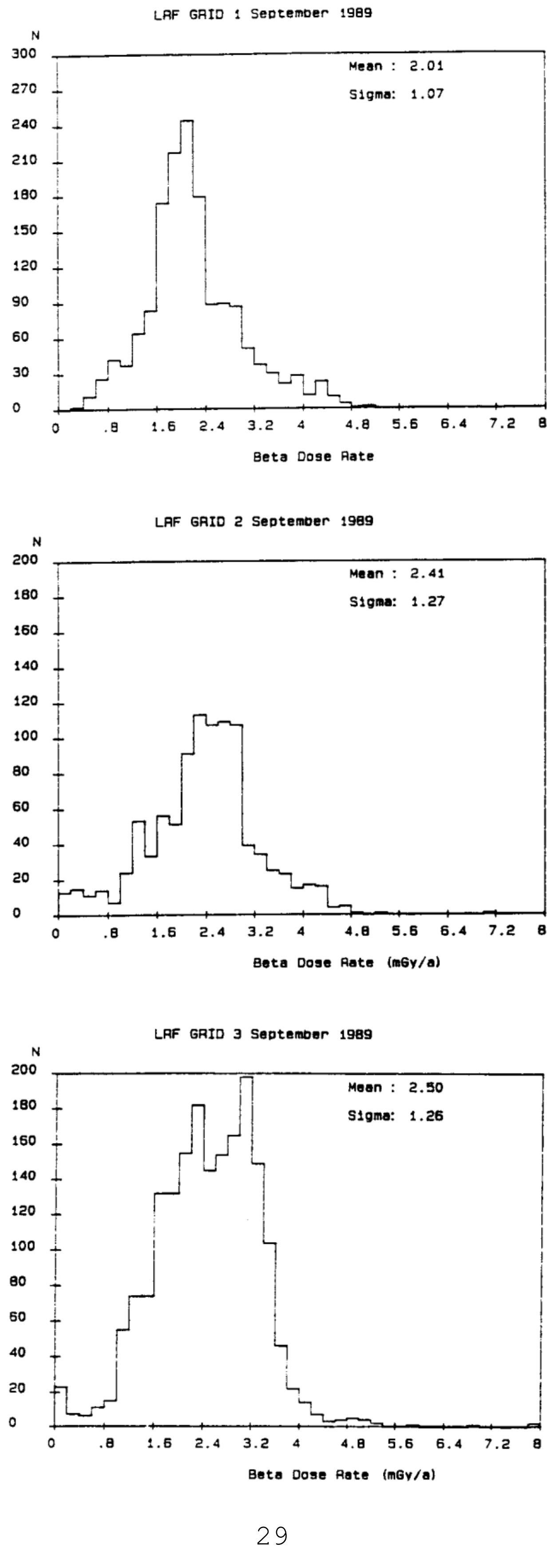


Figure 2.7 Histograms of ground level (2π) gamma dose rate in grids l,2 and 3

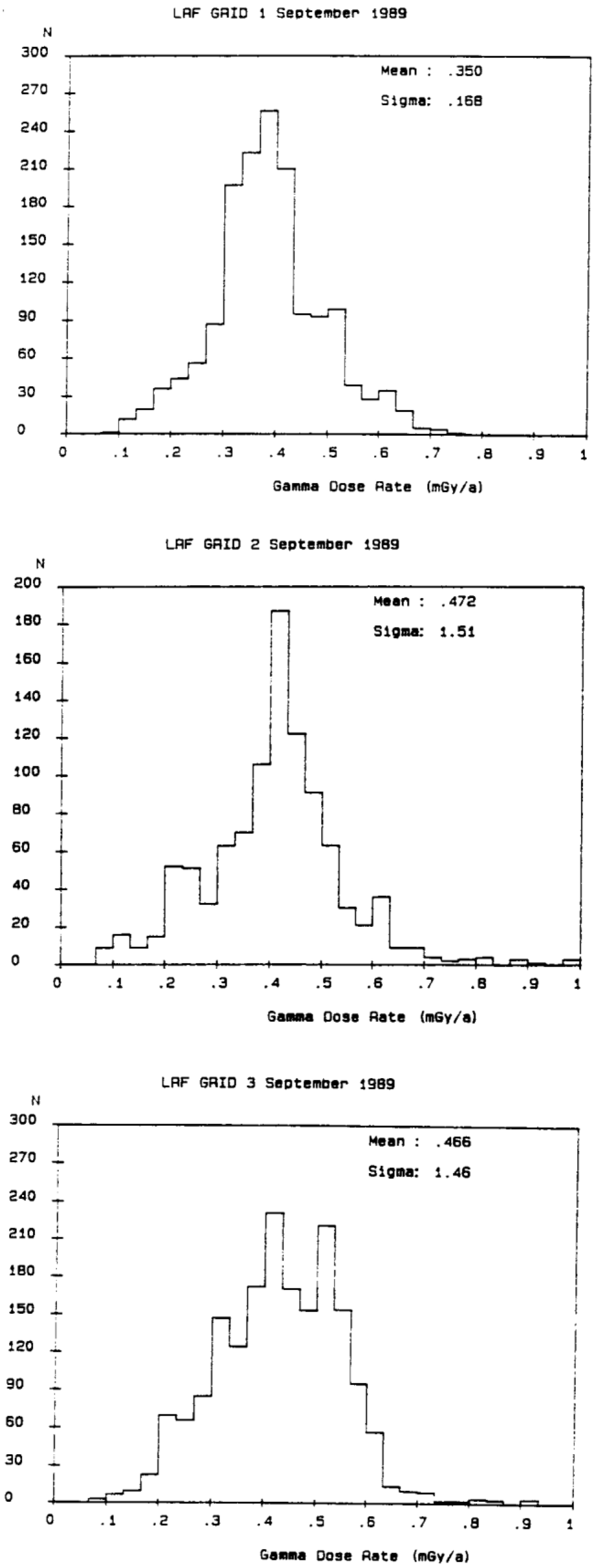


Figure 2.8 Scatter Diagrams of eTh,eU and K activity concentrations for Grid 1.

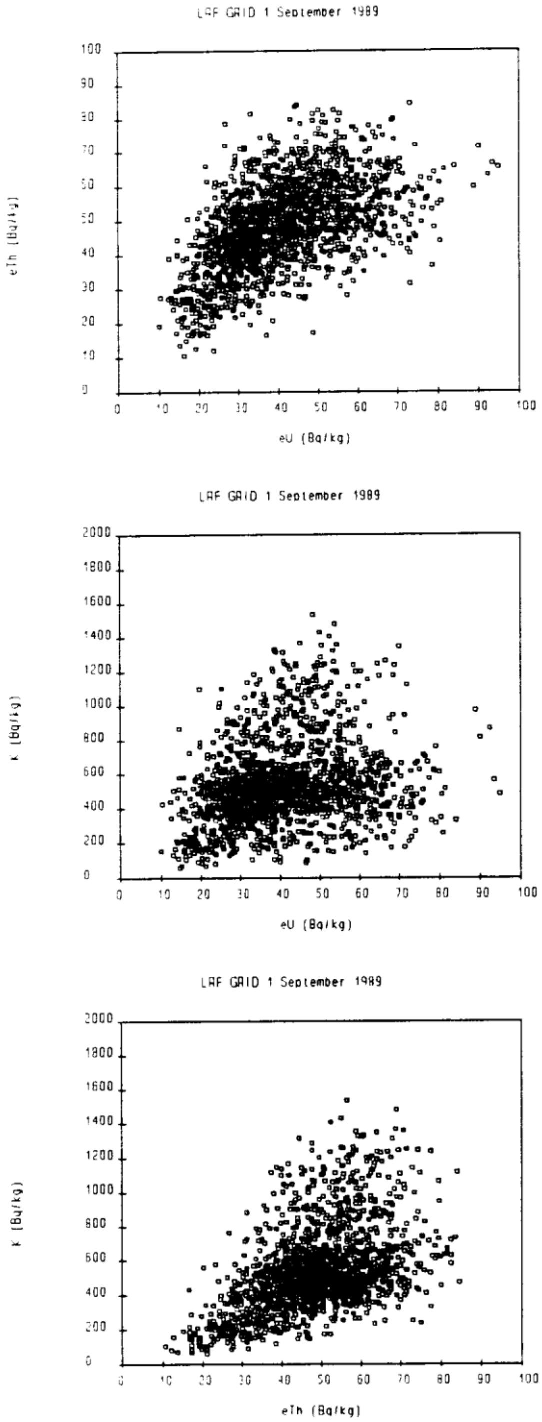
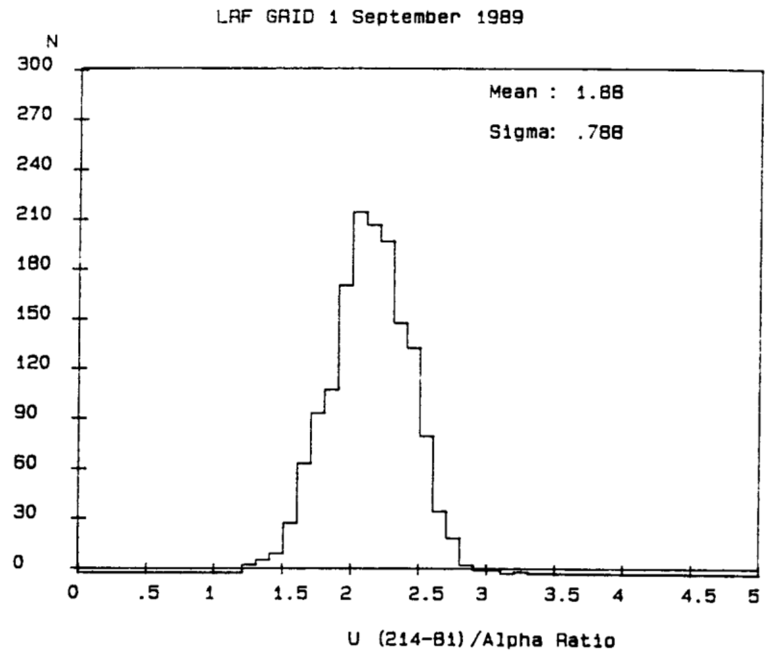
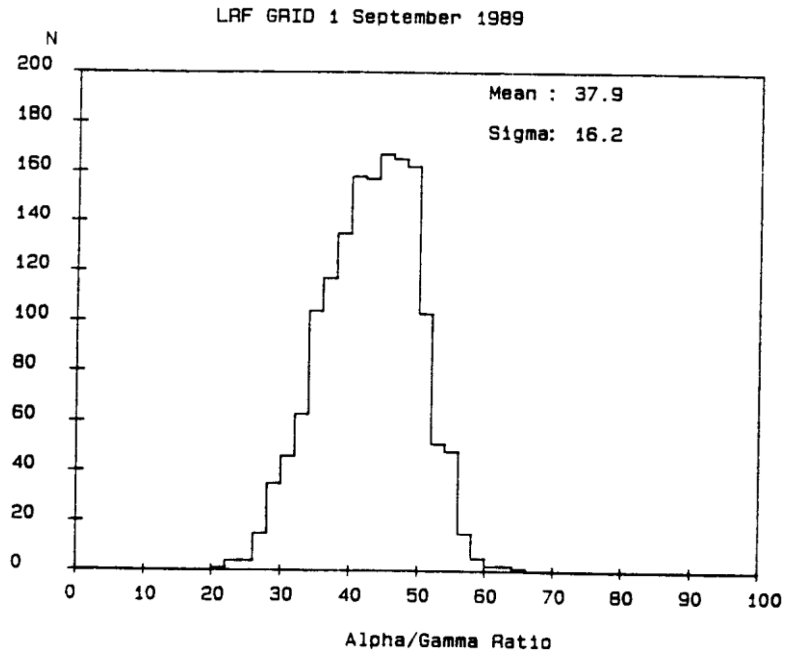


Figure 2.9 Histograms of the eU to alpha dose rate ratio and the alpha to gamma ratio for grid 1.





2.4.3 Maps

Figures 2.10 to 2.15 show the maps of each radiation variable for grids 1 and 2, together with geographical features. Corresponding maps for grid 3 are shown in figures 2.16 to 2.2l. All show clearly both large and small scale spatial structure reflecting underlying geological and geomorphological influences.

In grid 1 the prominent area of potassium enhancement stretching from SW of Wellington to E of Taunton corresponds to Triassic Keuper Marls, also shows enrichments in eU and eTh, and contributes significantly to the beta and gamma dose rate distributions. To the south of this feature a distinct contrasting area of low potassium corresponds to the cretaceous greensands around Chard and the Black Down Hills, and is also reflected in reduced levels of beta and gamma radiation. Between Chard and Ilminster, and beyond towards Yeovil the Jurassic Lias beds provide intermediate levels of activity in most variables. West of Wellington the transition through Triassic sandstones to Permian rocks is marked by distinct boundaries in the K, eU, and eTh maps producing high contrast features in the alpha dose rate map.

The maps for grid 2, comprising the area around Bridgwater, reflect the mainly Triassic and Jurassic substrata of the area, with contributions from Devonian rocks in the vicinity of the Quantock Hills. The lower undulations of the river Parrett are vividly reflected in the K, eTh, α,β, and γ maps; it is possible that the drained land of the Kings Sedgemoor imposes geomorphological structure on the results. The Hinkley Point nuclear power station produces interference with the K map as a result of the emission of ^{41}Ar gas from the Magnox reactors. This also contributes to the gamma maps. The plume direction during the survey was clearly oriented offshore, but this will be a spatially and temporally variable dose component to the local surroundings of the plant. The gamma maps also show a generalised enhancement on the inland side of the plant, although this correlates with eTh and eU features and therefore may be entirely natural. The aerial survey results suggest that ^{41}Ar is a dominant source of off-site dose contributions due to Hinkley Point.

The K, eU and eTh maps of grid 3 (particularly eU) show the boundaries of the Bodmin Moor and Dartmoor granites very clearly, along with intermediate minor granite intrusions which are present on geological maps. Interestingly, the radiometric anomalies appear to extend beyond the boundaries of the surface exposures for these rocks implying that there may have been migration of radioelements beyond the limits of the granite masses; this effect is more pronounced in eTh than in eU, which is considered to be consistent with geochemical expectations, since Th will be excluded from the margins of the magma to a greater extent. The presence of geochemical structures around the Bodmin Moor granite, between the rivers Lynher and Seaton, for example is extremely interesting. Negative anomalies in K, eU and eTh between the river Lyd and the Tavy and Tamar system appear to be associated with carboniferous rocks and generate a systematic contrast of a factor of three between environmental dose rate variables over the space of a few km. It was noted that the Devonport Dockyard was not a pronounced source of environmental radiation at the time of the survey, despite the activities associated with submarine maintenance. Furthermore several estuarine salt marshes were examined in the Tavy and Tamar estuaries. Such environments are known, in the context of the Irish Sea basin, to accumulate anthropogenic radionuclides from marine discharges from Sellafield giving rise to considerably enhanced local radiation

Figure 2.10 Colour contour map of ^{40}K activity in grids 1 and 2

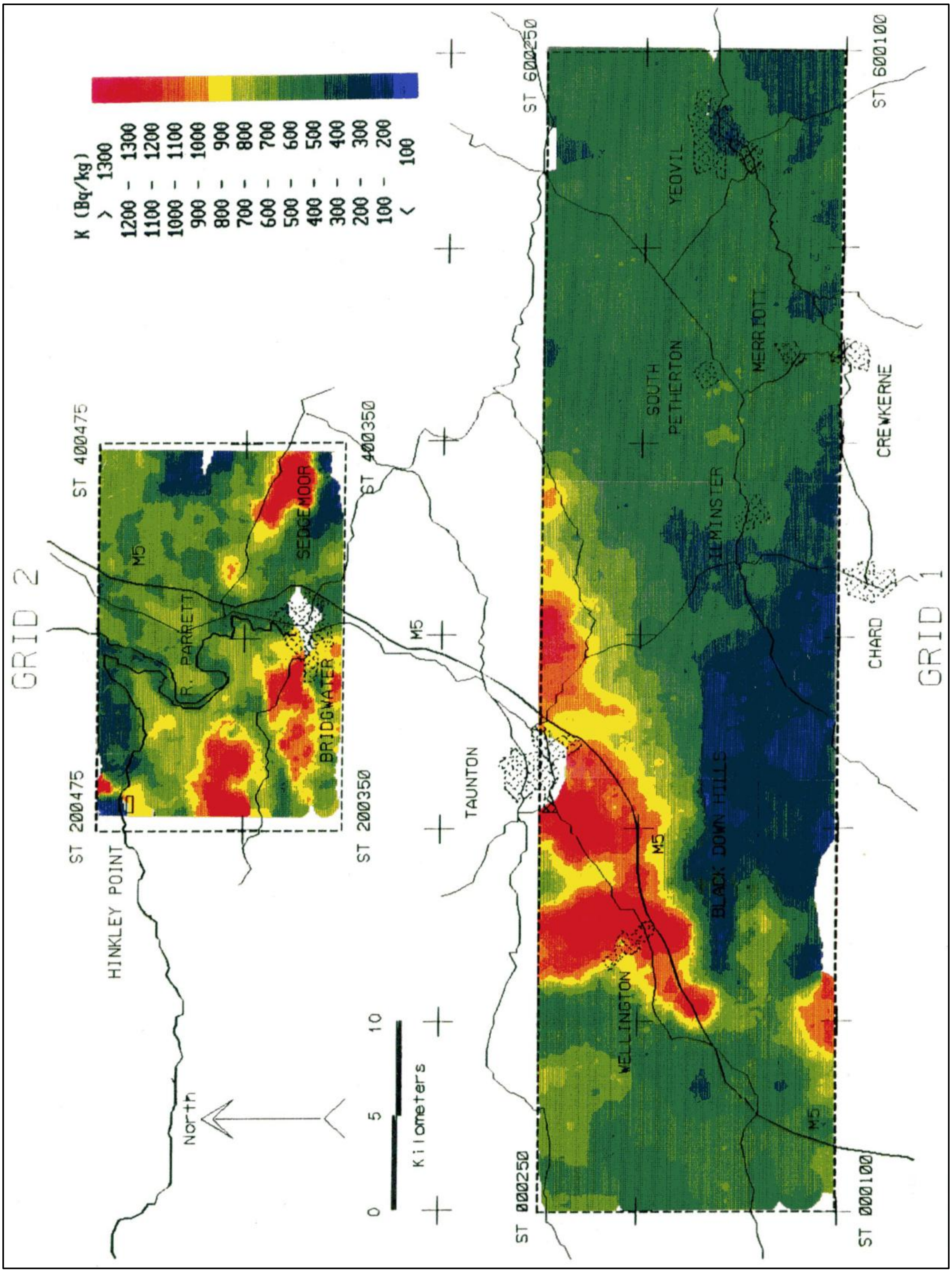


Figure 2.11 Colour contour map of eU activity in grids 1 and 2

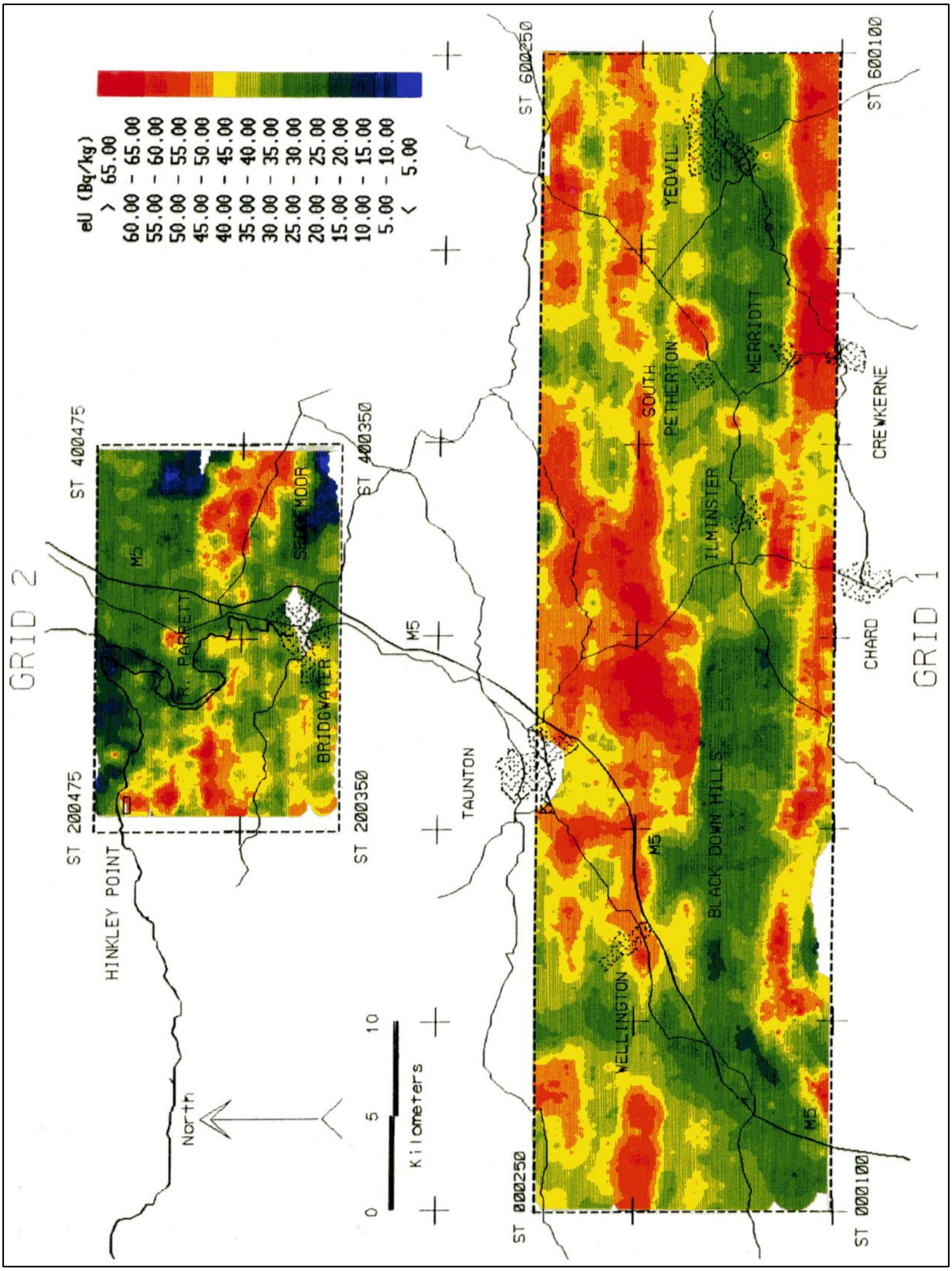


Figure 2.12 Colour contour map of eTh activity in grids 1 and 2

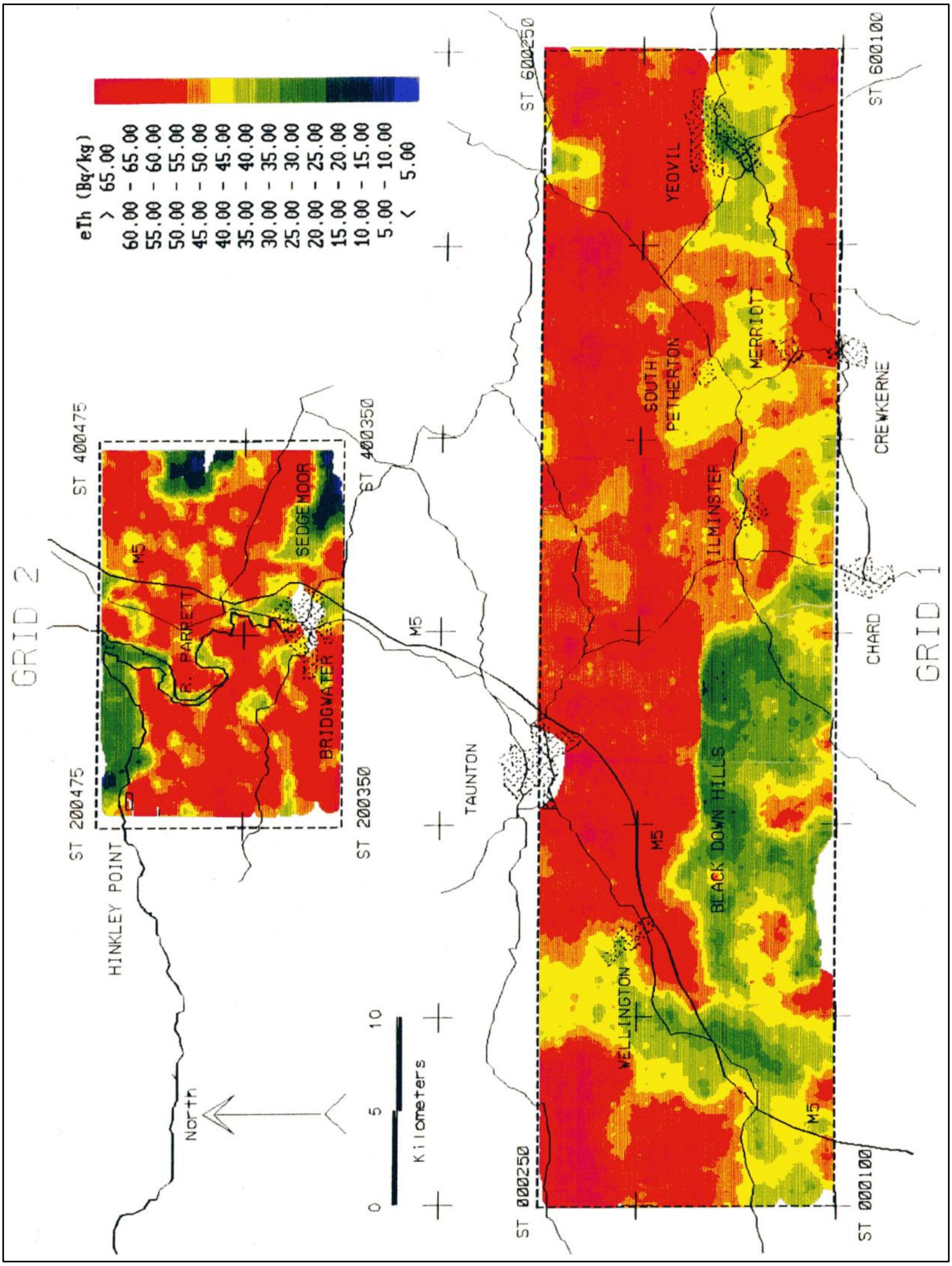


Figure 2.13 Colour contour map of the infinite matrix alpha dose rate activity in grids 1 and 2

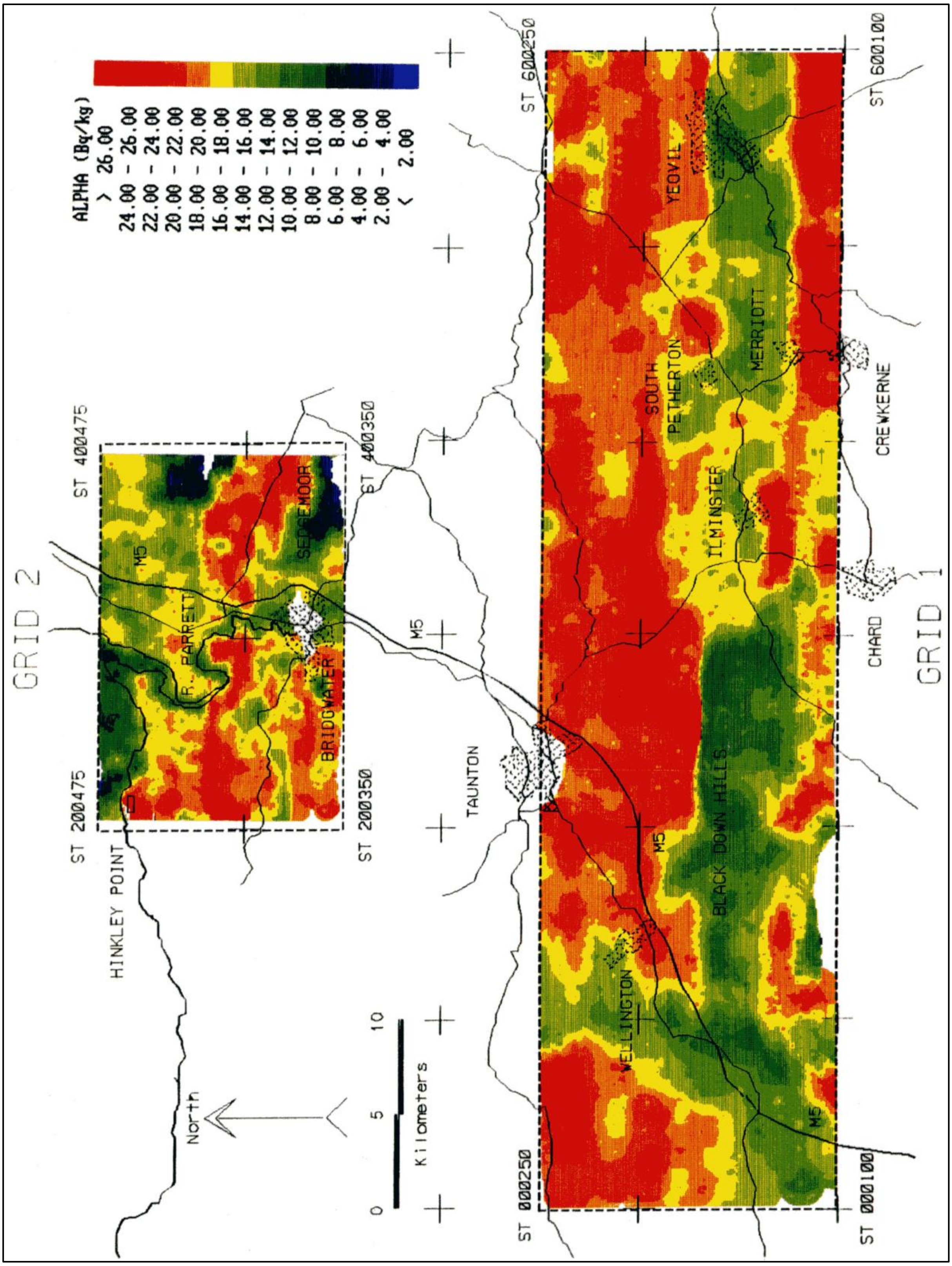


Figure 2.14 Colour contour map of the infinite matrix beta dose rate activity in grids 1 and 2

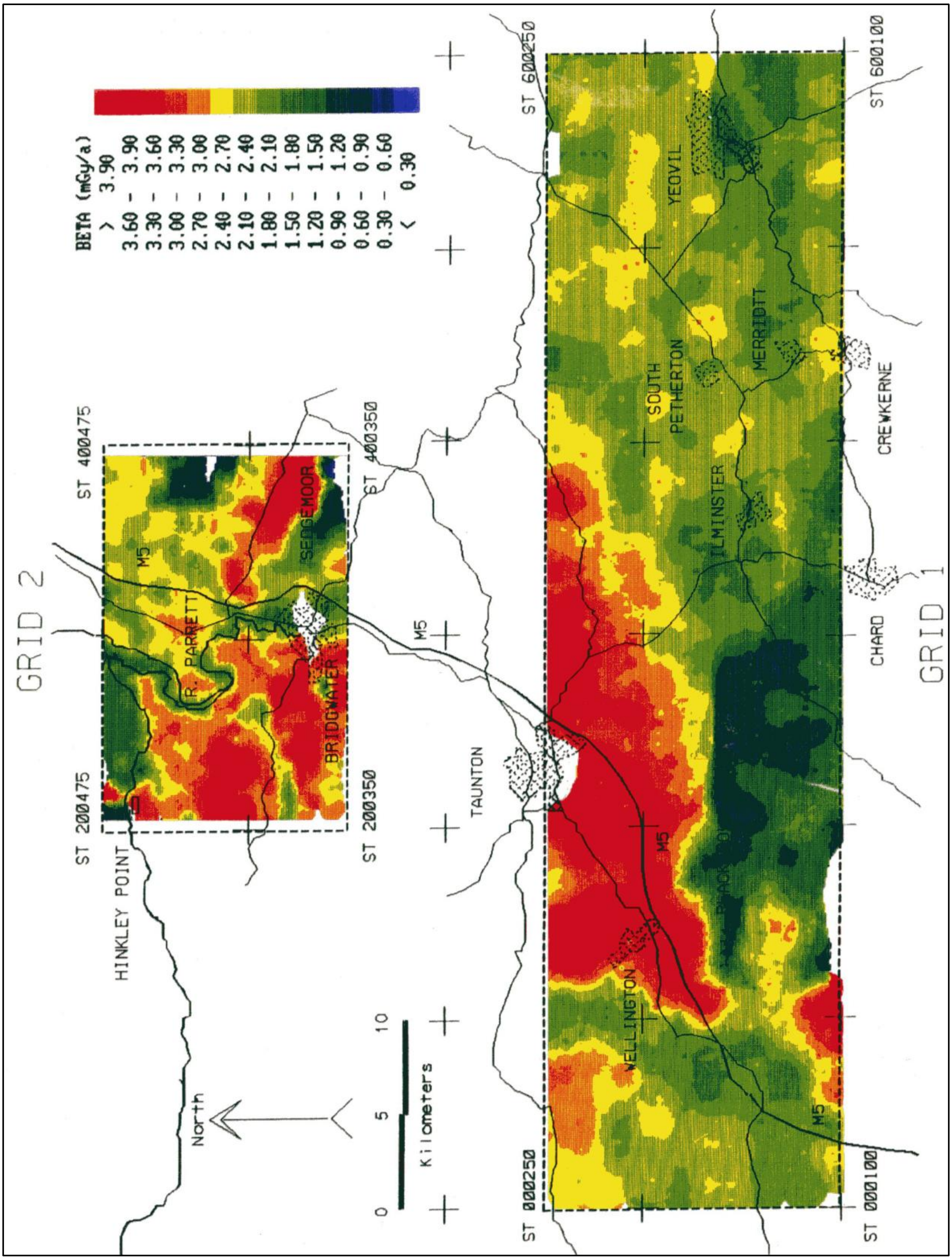


Figure 2.15 Colour contour map of ground level gamma dose rate activity in grids 1 and 2

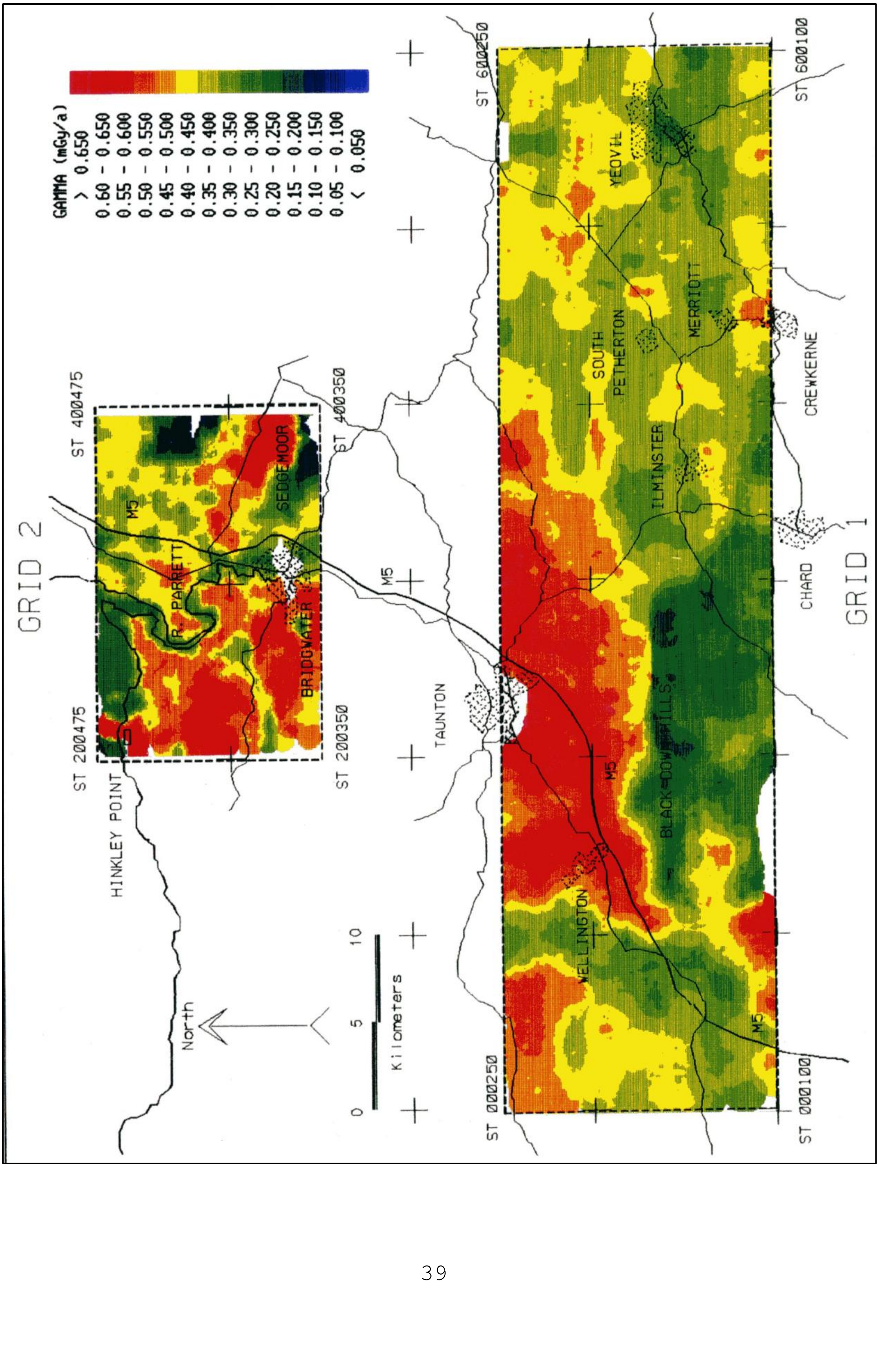


Figure 2.16 Colour contour map of ^{40}K activity in grid 3

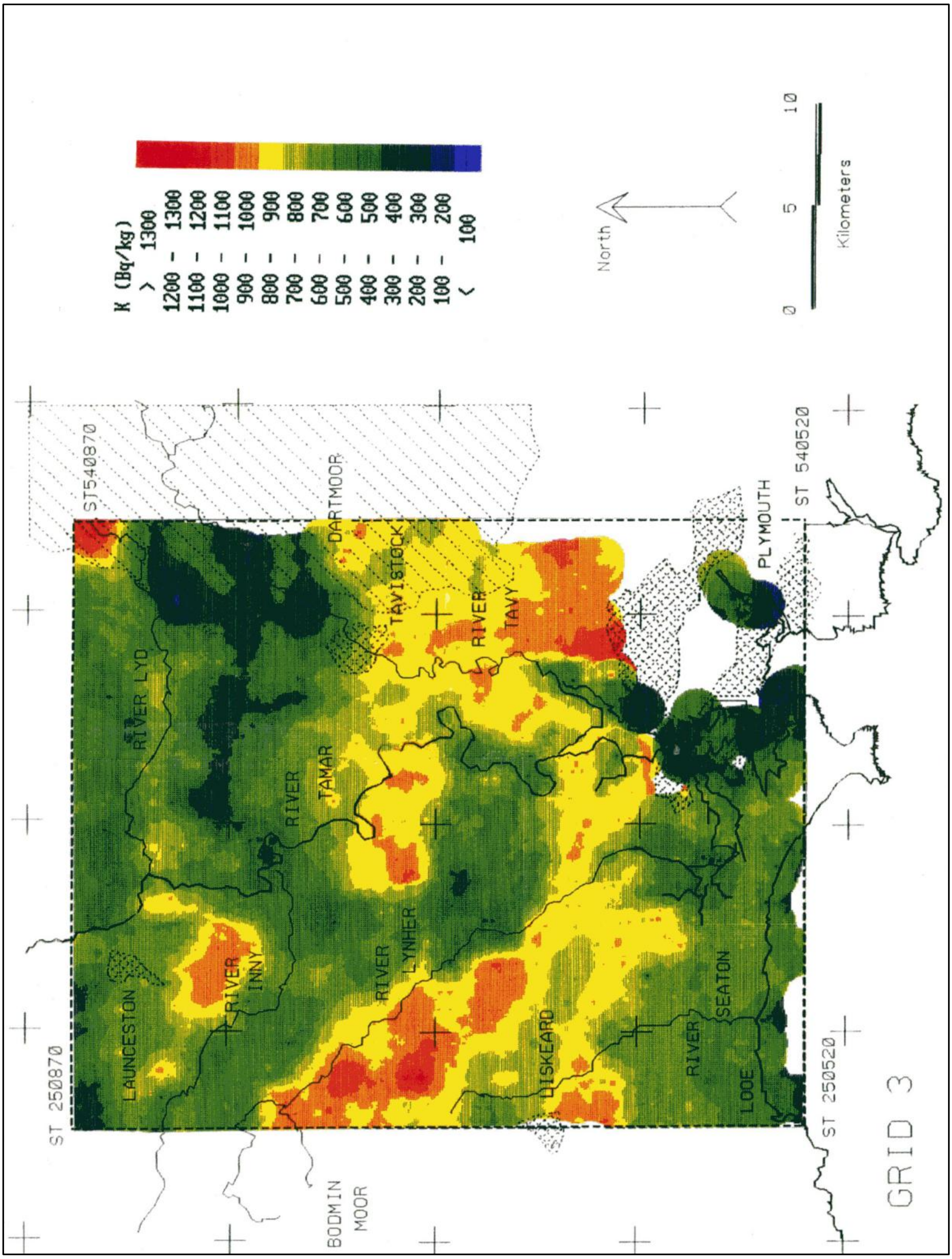


Figure 2.17 Colour contour map of eU activity in grid 3

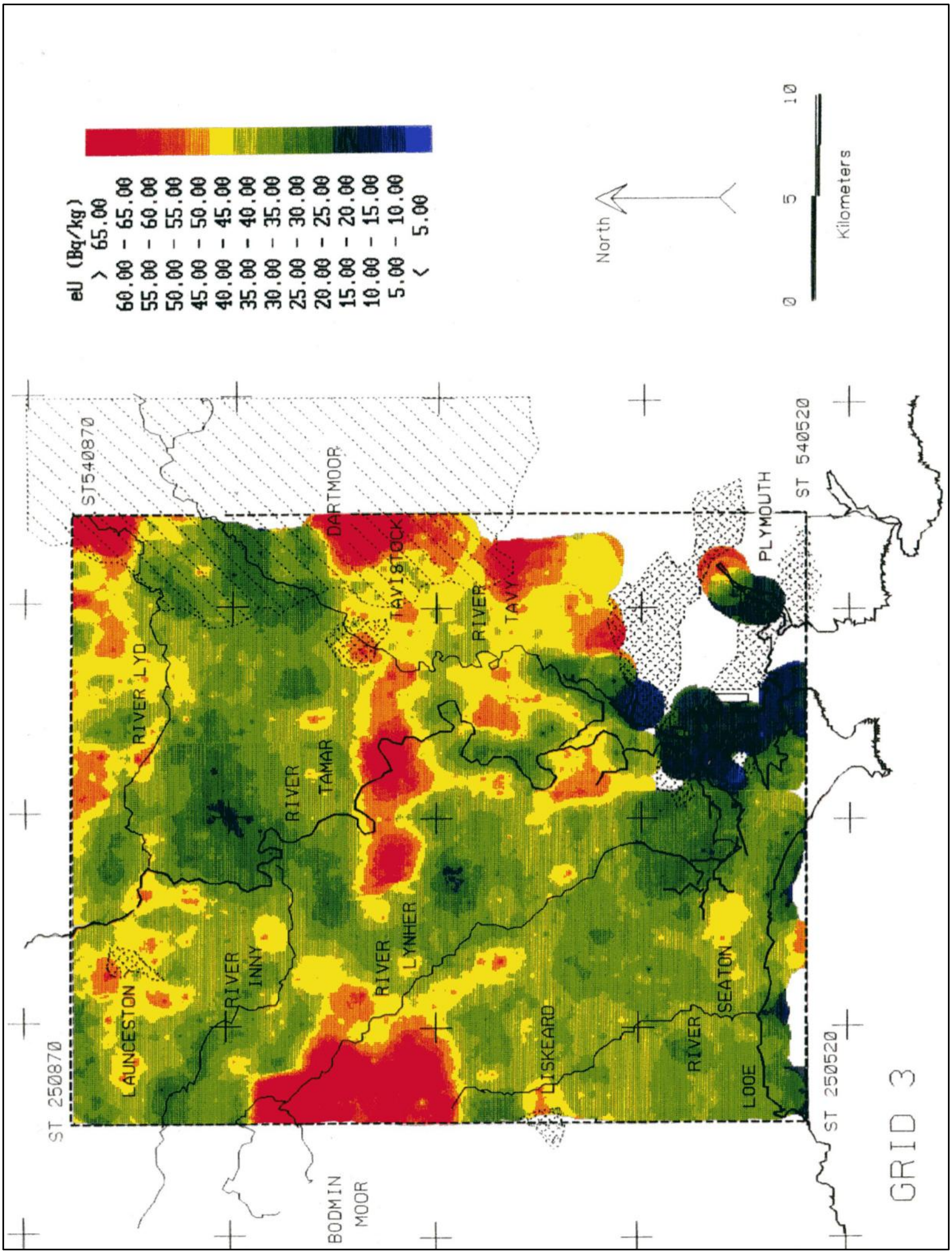


Figure 2.18 Colour contour map of eTh activity in grid 3

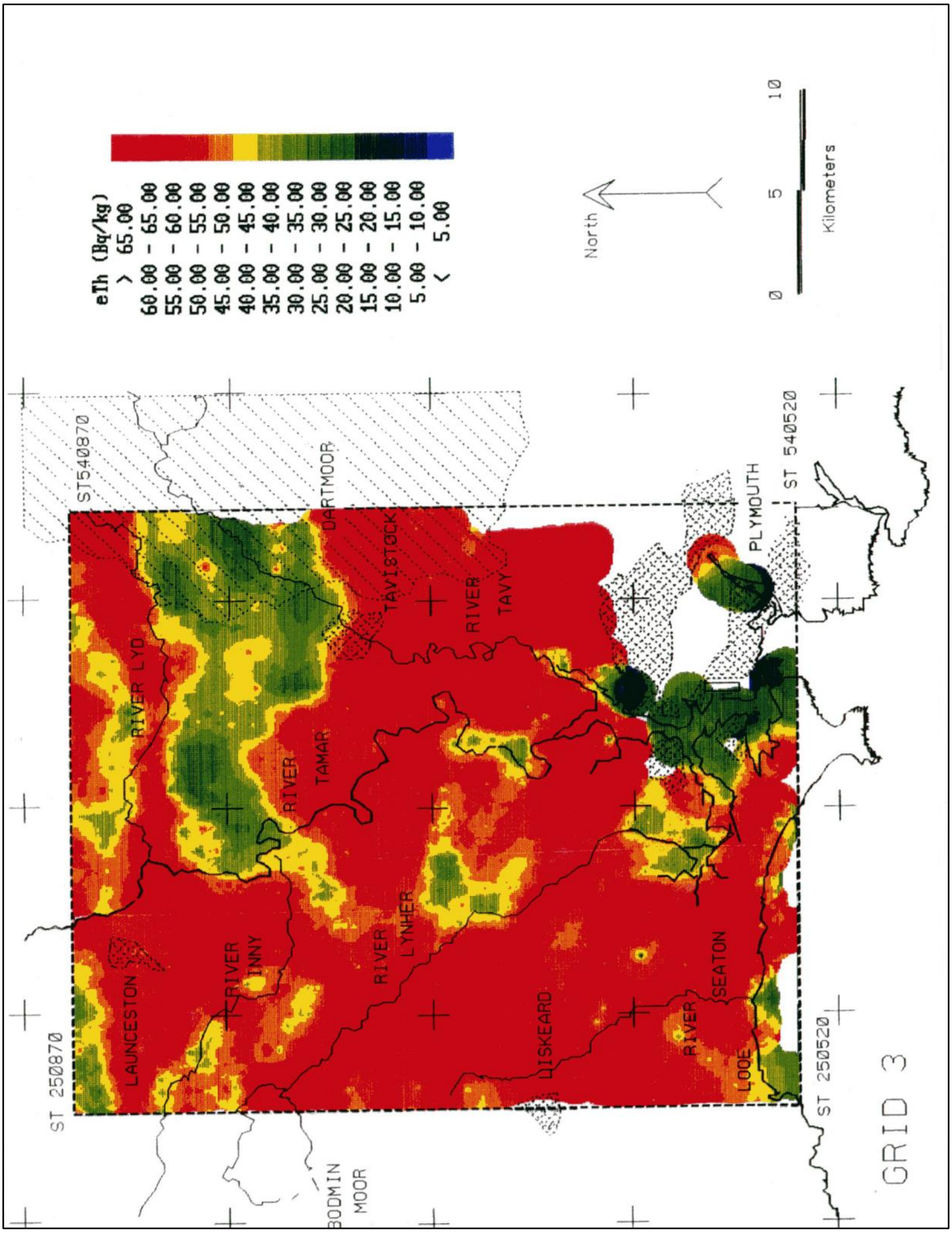


Figure 2.19 Colour contour map of infinite matrix alpha dose rate in grid 3

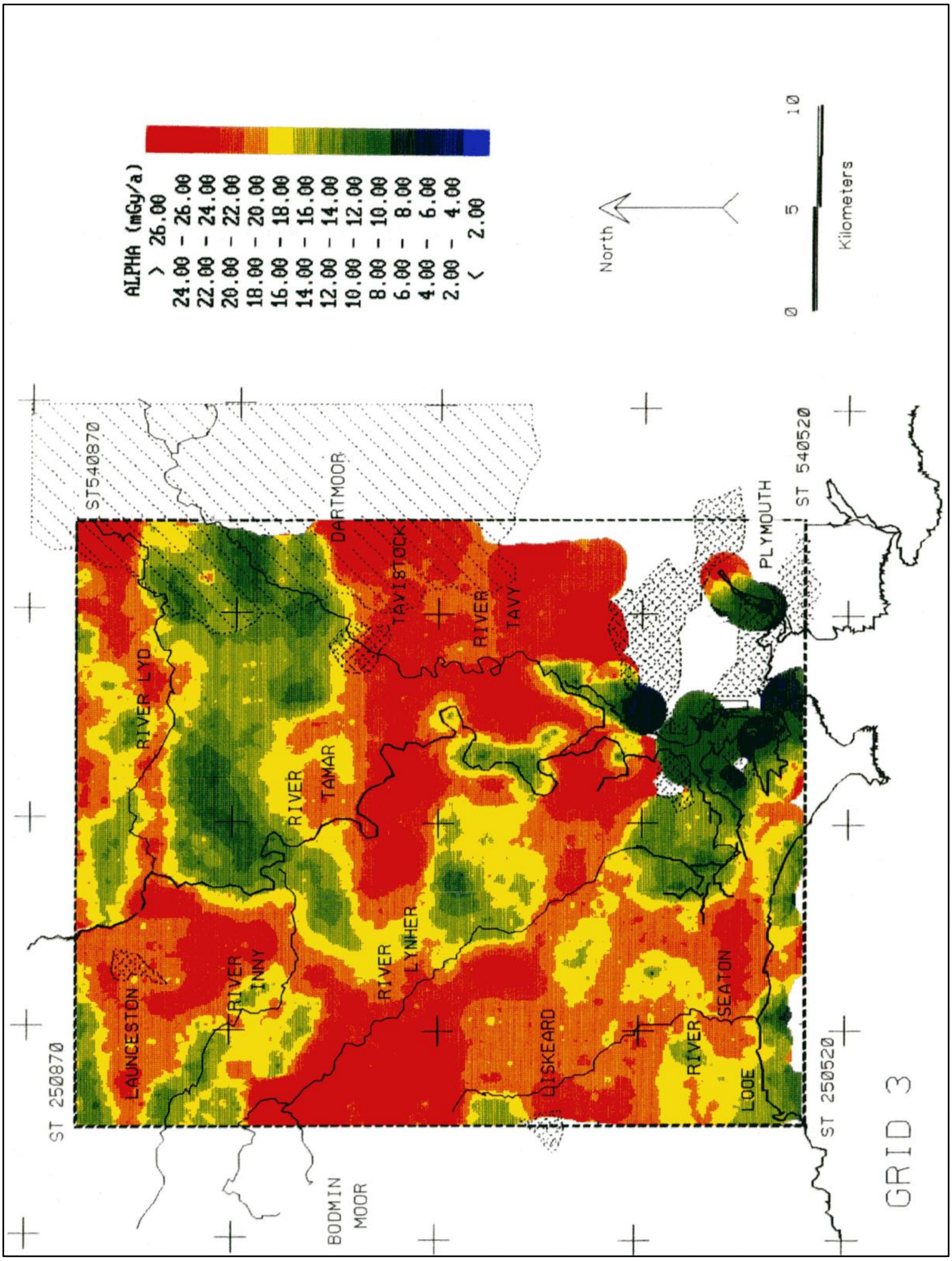


Figure 2.20 Colour contour map of infinite matrix beta dose rate in grid 3

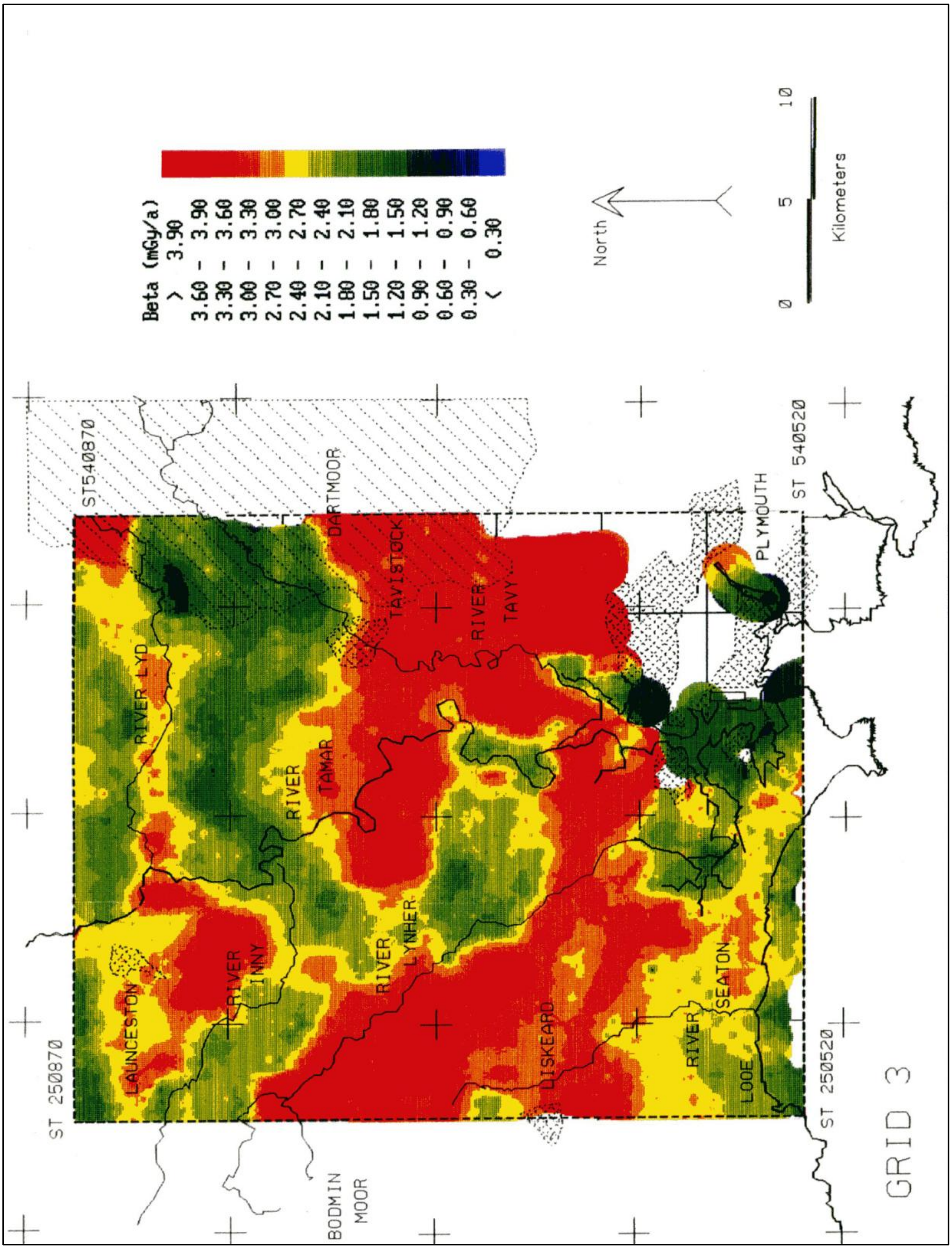
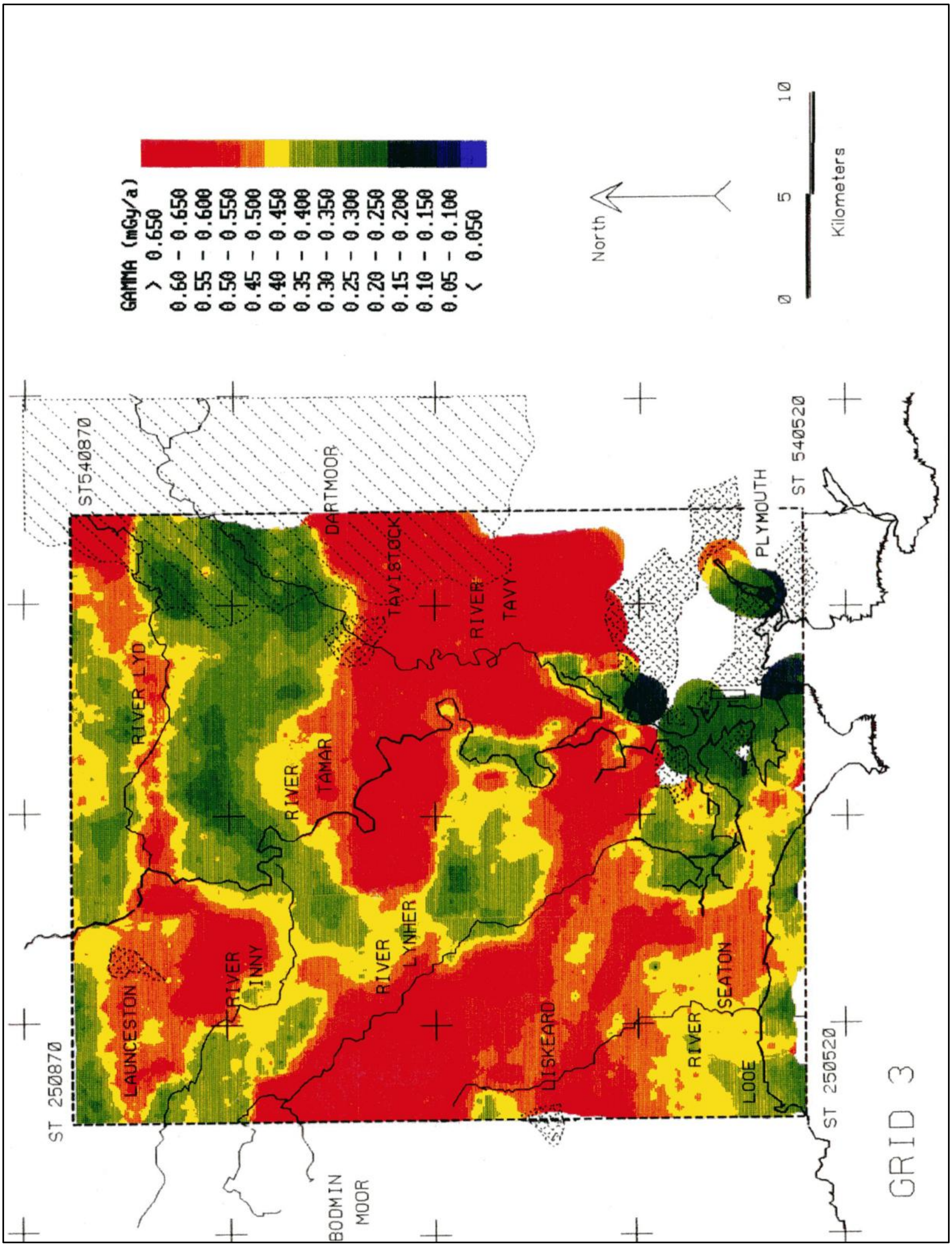


Figure 2.21 Colour contour map of ground level gamma dose rate in grid 3



levels. By contrast the saltmarshes of the Tavy and Tamar estuaries were essentially uncontaminated. Both findings confirmed the low levels reported from MoD environmental monitoring of the surroundings to the Devonport facility. There is therefore no basis for any perceived environmental link between nuclear submarine operations and leukaemia amongst the general population of the Plymouth area.

2.5 Discussion

The survey itself has successfully demonstrated the scale of spatial variability of environmental radiation variables in the selected areas. The aerial survey methodology is not only able to map the distribution of gamma rays, and thus quantify gamma dose rates; it also provides information about the relative quantities of the main terrestrial sources of environmental radio-activity, from which some statements about the availability of alpha, beta and gamma emitters can be drawn. The survey methodology is extremely effective for providing large area coverage at an economical rate; by comparison with ground based studies it produces a signal averaged over the major proportion of the landscape. The density of readings from these surveys is some 200-400 times higher than from previously available national mapping; the area sampling density is some 10^6 times greater. The survey itself takes relatively little time, therefore studies of change within local areas can be conducted.

The maps produced from these pilot study grids demonstrate the considerable variations (up to five fold) in levels of all radiation variables on a local scale. The gamma dose rate, for example shows a similar degree of variability within these grids, as observed in the national published maps of the whole of the UK. Variations in radiation quality within the environment also arise, as a result of the varying relative abundance of the natural series sources. These are limited to perhaps a factor of 3-fold variation.

While it is clear that doses to individuals can only be rigorously evaluated by explicit consideration of the exposure routes and effective dose equivalents of each environmental source, it is also clear that epidemiological studies which attempt to relate environmental radiation levels to incidence distributions must take account of the spatial variability, and it's underlying geochemical origins, demonstrated in this study.

3. EPIDEMIOLOGICAL ANALYSIS

3.1 Introduction

This section presents the development, and application, of methodologies to relate radiometric results to leukaemia incidence data from epidemiological studies. The objectives were to conduct a preliminary assessment of the relationships, if any, between incidence distribution data for certain leukaemias and the natural radiation background, and to formulate hypotheses for future studies.

There would appear to be two distinct approaches to conducting comparisons between hypothetical external influences and the incidence of their postulated effects. The first approach (A) comprises investigating the differences between the external attributes associated with groups expressing, or not expressing the postulated condition. If the external influence is a significant causative agent, then groups expressing the condition may be expected to have received a greater exposure to it. The contrasting approach (B) is to examine the relative incidence of groups exposed to the hypothetical external influence to differing extents. Here a positive link would be revealed by increasing incidence associated with increasing exposure.

In the case of examining a postulated link between environmental radioactivity, or radiation, and leukaemia incidence, approach (A) corresponds to comparing radiation levels associated with leukaemia cases with those from an appropriate control sample. Approach B corresponds to evaluating the incidence rates for leukaemia in contrasting radiation fields. The former approach has been adopted in the majority of studies which use ground-based, domestic-scale, radiation measurements, for example in clinical follow-up investigations. A case-control study was therefore included in this project using data provided by the Leukaemia Research Fund Clinical Epidemiology Centre at Leeds University. However, it was also recognised that the association between low-level radiation exposure and health effects is essentially stochastic. Therefore, individuals with identical radiation exposures need not exhibit the same response. The underlying relationship for such stochastic systems is between radiation exposure and the probability of the resulting effect. This is more directly observable using approach B; the investigation of incidence rate. A second analysis was undertaken to develop a methodology to evaluate incidence rates as a function of the radiometric variables. It is notable that this second approach is only logistically practicable using aerial radiometrics, since it requires detailed estimates of the radiation variables associated with the general population.

The formal analysis has included:

A) a comparison of the radiation variables for case and control samples and
B) the investigation of the relationship between incidence rate (evaluated using population data based on small area statistics) and the radiometric information.

3.1. 1 Description of the epidemiological data

The Leukaemia Research Fund Centre for Clinical Epidemiology (Leeds) provided the primary epidemiological data. The centre also provided advice on the clinical interpretation of the data (in particular, disease groupings). The epidemiological data comprised a set of all recorded incidences of leukaemia during the five year period 1984-1988 for the three grids surveyed. Case locations were identified by the OS coordinates of the postal code in associated with the place of residence at the time of diagnosis. Additional information available on the individual cases included age at diagnosis, diagnostic code, date of diagnosis, and whether the location was urban or rural.

At the advice of the LRF, three diagnostic groupings of interest were identified:

Table 3.1 Disease Groupings

Group 1.	Lymphoproliferative diseases -	
		acute lymphoblastic leukaemia
		chronic lymphocytic leukaemia
		Hodgkin's disease
		low grade non-Hodgkins lymphoma
		high grade non-Hodgkins lymphoma
		multiple myeloma
Group 2.	Myeloproliferative disorders -	
		chronic myeloid leukaemia
		other myeloproliferic disorders
		myeloid dysplasia
Group 3.	Acute myeloid leukaemia	

For subsequent analysis, all diagnostic codes were grouped according to these recommendations. It should be noted that although Group 1 includes multiple myeloma, it became apparent that they had in fact been excluded from the case listing provided and hence played no part in the analysis.

In addition, LRF Leeds selected and provided the necessary control sample data for the case-control study. Two control groups were generated corresponding to control populations for Groups 2 and 3 respectively (myeloproliferative diseases and acute myeloid leukaemia). For each group and grid, a matching ratio of 3 to 1 was employed using a multinominal allocation to assign appropriate numbers of controls to the post codes with probabilities proportional to:

$$\Sigma v(i)\, n(i)$$

where i = age stratum codes 0-14, 15-64, 65-79
v(i) = overall LRF age specific incidence

n(i) = estimated stratum population

Group 1 (Lymphoproliferative Diseases) was not supplied with a distinct control set, and it was suggested (F. Alexander, pers. comm.) to use the control for groups 2 and 3 as a control set for Group 1.

3.1.2 Distribution of cases

A total number of 374 cases were reported for the three grids, the distribution by grid is shown in Table 3.2:

Table 3.2 Distribution of cases over the three grids

Group	Grid 1	Grid 2	Grid 3	Total
1	155	33	74	262
2	26	8	18	52
3	31	10	19	60
Total	212	51	111	374

The distributions of the cases in the three grids show no apparent differences. In each grid, group 1 provides - 70 %, group 2 - 14 % and group 3 - 16 % of all cases. Figure 3.1 shows the age distributions in each grid; they are strongly skewed, reflecting the increasing risk of leukaemia with increasing age. Over 70% of the cases were aged 50 or over.

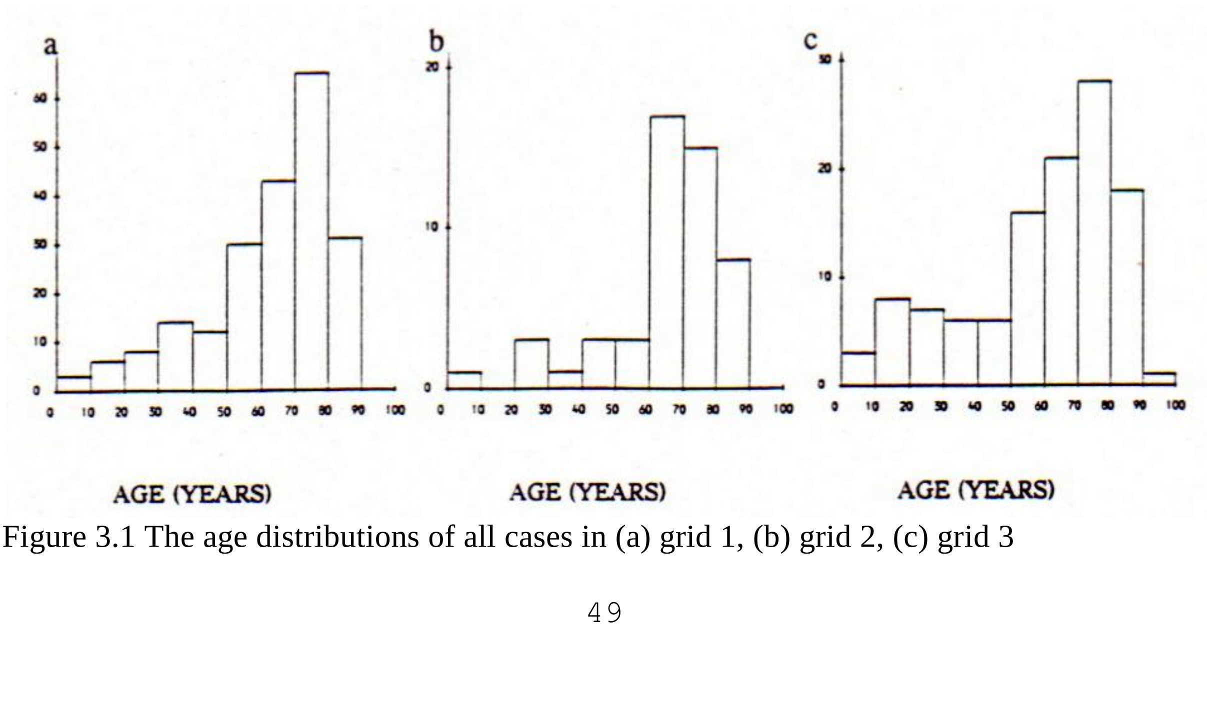


Figure 3.1 The age distributions of all cases in (a) grid 1, (b) grid 2, (c) grid 3

3.1.3 Population data

The population data were taken from the 1981 small area statistics (SAS) and made use of both civil parishes and enumeration district data. The enumeration district data include the OS coordinates of the centroid for each district which will assist in the matching with the radiometric data and in producing the population density surface. A total of 1109, 2334 and 1046 enumeration districts are available to describe the population base in Cornwall, Devon and Somerset respectively. 60, 32 and 47 enumeration districts comprise Grids 1, 2 and 3 of the survey respectively.

Using the enumeration district data, a population density map was produced (using kernel density estimation) on which the case locations could be overlaid. Such a mapping encourages an investigation of the relationship between the case locations and the overall population. In this way it is possible to immediately identify any significant anomalies between the two distributions: a 'large' number of cases in an area of 'high' background radiation will be -interpreted differently depending on whether there is a high population density in the area or not.

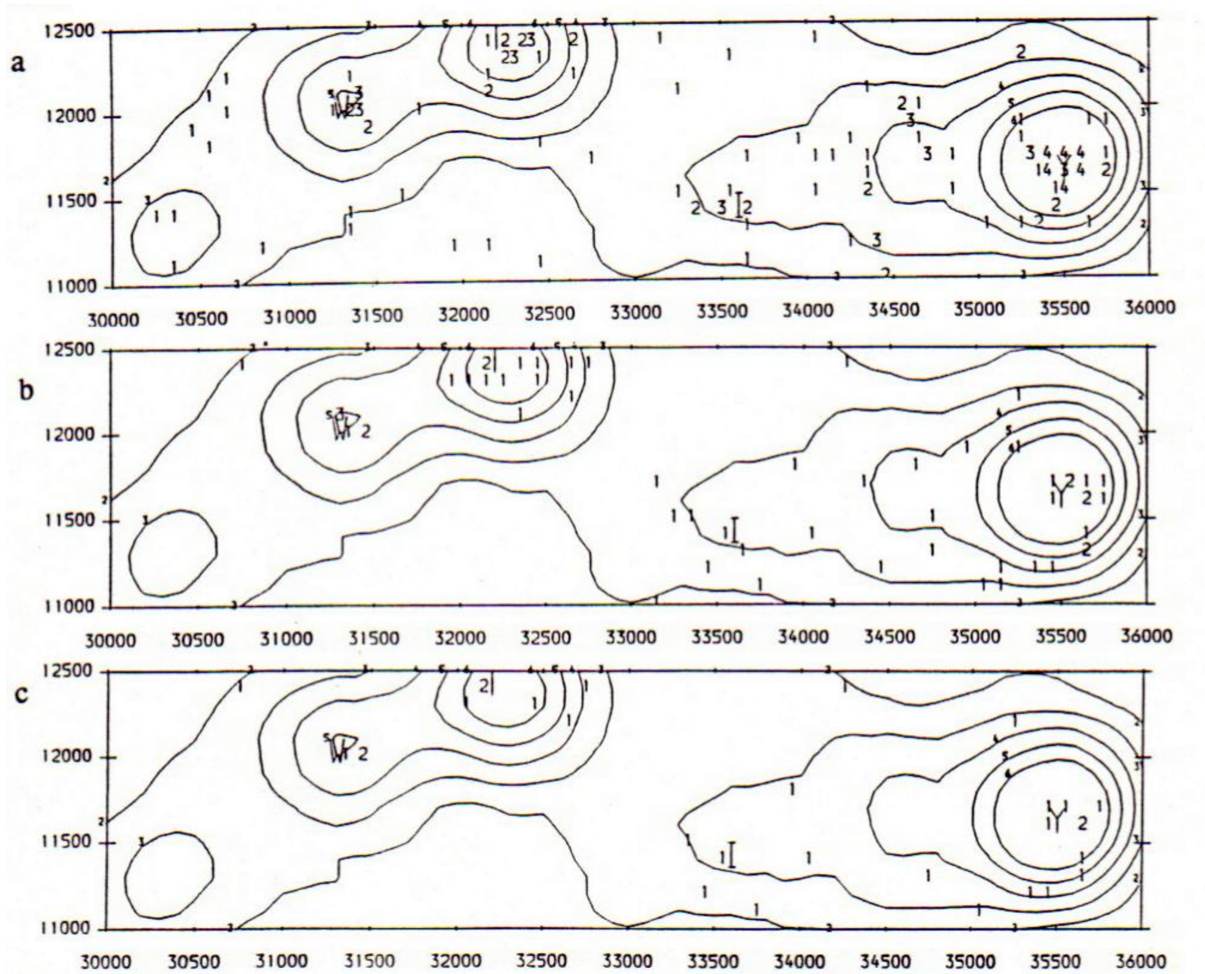


Figure 3.2 Locations of group l(a), 2(b) and 3(c) cases in grid 1 together with the population surface.

Unsurprisingly, the preliminary analysis of case and population densities demonstrates that case density is in the main controlled by the population distribution. Figure 3.2 shows the case locations on the population surface, and demonstrates this clearly for Grid 1. Similar diagrams for Grids 2 and 3 show the same features, however they do also demonstrate one difficulty which applies to this and all subsequent analysis, namely the extremely small numbers of cases (in all three groups but particularly in groups 2 and 3). One outcome of the small numbers will be apparent in the low power which any case-control comparison will have.

3.2 Case-Control Study

3.2.1 Aims

The aims of this section are to

a) develop a methodology to link the epidemiological case and control data to the radiometric data, to facilitate statistical analysis by traditional parametric methods.

b) test the hypothesis that the mean background radiation levels for the case and control groups are not the same.

Within the framework of a standard case-control study, it is critical that controls are matched to the cases for all factors other than that under investigation. However, given the spatially varying nature of the underlying radiation field, it is possible that some of the matching factors may act as a surrogate for the radiation field. For this reason, which is particularly important when considering a fundamentally stochastic condition (radioleukaemogenesis), care must be taken in interpreting the results of the case control comparisons with environmental data. Indeed, an additional problem of this study is that the location in which the case was found reflects the location at time of diagnosis. Therefore the associated radiation level will not represent the total radiation life history of the individual case. This of course is also true of domestic investigations.

3.2.2 Association of epidemiological and radiometric results

The matching of each case and control to the radiation grid cell in which it occurred was achieved using the radiometric mapping programme. The programme was extended to facilitate the spatial association of the radiometric data with any further set of spatially registered data. The procedure identified all radiometric observations within a pre-defined neighbourhood of the OS coordinates of the location of the case (or control). Their weighted average with weights inversely related to the distance from the case location was then calculated. The average radiometric values so obtained were associated with cases and controls. Summary statistics for the cases and controls for each grid and disease grouping were then produced.

3.2.3 Results of comparisons between cases and controls

For each case and control group, summary statistics for each radiation variable are shown in Tables 3.3 to 3.5.

Table 3.3 Summary Statistics for Cases and Controls in Grid 1

		K (Bq/kg)	eU (Bq/kg)	eTh (Bq/kg)	Alpha (mGy/a)	Beta (mGy/a)	Gamma (mGy/a)
Group 1	Mean	649.10	38.80	49.00	17.70	2.56	0.43
n:154	St Err	22.90	0.71	0.69	0.27	0.07	0.01
	CV %	43.78	22.71	17.47	18.93	33.93	23.09
Group 2	Mean	666.90	39.40	49.70	17.90	2.63	0.44
n:26	St Err	58.70	1.60	1.53	0.53	0.17	0.02
	CV %	44.88	20.71	15.70	15.10	32.96	23.18
Group 3	Mean	647.40	37.70	48.00	17.20	2.53	0.43
n:31	St Err	53.90	1.52	1.41	0.56	0.16	0.02
	CV %	46.36	22.45	16.36	18.13	35.21	25.90
All Cases	Mean	651.10	38.70	49.00	17.60	2.56	0.43
n:211	St Err	19.80	0.59	0.57	0.22	0.06	0.01
	CV %	44.17	22.15	16.90	18.16	34.04	23.65
Control 2	Mean	627.30	39.30	49.60	17.90	2.51	0.43
n:84	St Err	29.50	0.96	1.02	0.39	0.09	0.01
	CV %	43.10	22.39	18.85	19.97	32.86	21.31
Control 3	Mean	627.80	38.00	48.40	17.40	2.49	0.42
n:216	St Err	18.50	0.62	0.61	0.23	0.06	0.01
	CV %	43.31	23.98	18.52	19.43	35.41	21.00
All Controls	Mean	627.60	38.40	48.80	17.50	2.49	0.42
n:300	St Err	15.70	0.52	0.52	0.20	0.05	0.01
	CV %	43.33	23.45	18.46	19.79	34.78	20.62

Table 3.4 Summary Statistics for Cases and Controls in Grid 2

		K (Bq/kg)	eU (Bq/kg)	eTh (Bq/kg)	Alpha (mGy/a)	Beta (mGy/a)	Gamma (mGy/a)
Group 1	Mean	646.20	32.80	44.40	15.50	2.46	0.43
n:32	StErr	33.00	1.64	1.62	0.63	0.11	0.02
	CV %	28.89	28.28	20.64	22.99	25.29	26.31
Group 2	Mean	607.60	30.30	42.50	14.60	2.31	0.39
n: 8	St Err	53.60	1.30	2.20	0.53	0.17	0.02
	CV %	24.95	12.14	14.64	10.27	20.82	14.50
Group 3	Mean	698.90	33.00	47.40	16.10	2.62	0.42
n: 10	St Err	38.50	1.60	1.51	0.54	0.12	0.02
	CV %	17.42	15.33	10.07	10.61	14.48	15.06
All Cases	Mean	650.60	32.50	44.70	15.50	2.46	0.42
n: 50	St Err	24.00	1.10	1.20	0.42	0.08	0.02
	CV %	26.08	23.93	18.98	19.16	23.00	33.67
Control 2	Mean	682.20	33.43	46.20	15.90	2.57	0.44
n:36	St Err	29.20	0.96	0.95	0.34	0.09	0.02
	CV %	25.68	17.23	12.34	12.83	21.01	27.27
Control 3	Mean	681.30	33.70	46.50	16.10	2.58	0.43
n: 95	St Err	15.60	0.56	0.61	0.22	0.05	0.01
	CV %	22.32	16.20	12.79	13.32	18.89	15.87
All Controls	Mean	681.30	33.70	46.50	16.10	2.58	0.43
n: 131	St Err	13.80	0.49	0.51	0.18	0.04	0.01
	CV %	23.18	16.64	12.55	12.80	17.74	18.63

Table 3.5 Summary Statistics for Cases and Controls in Grid 3

		K (Bq/kg)	eU (Bq/kg)	eTh (Bq/kg)	Alpha (mGy/a)	Beta (mGy/a)	Gamma (mGy/a)
Group 1	Mean	638.40	35.60	47.90	16.80	2:50	0.43
n:74	St Err	19.80	1.50	1.60	0.59	0.16	0.01
	CV %	26.68	36.25	28.73	30.21	55.05	20.01
Group 2	Mean	633.40	36.60	49.40	17.20	2.50	0.43
n:18	St Err	42.30	2.80	3.30	1.20	0.16	0.03
	CV %	28.33	32.46	28.34	29.60	27.15	29.60
Group 3	Mean	625.70	36.60	48.10	17.00	2.47	0.42
n:19	St Err	43.80	2.90	3.60	1.20	0.17	0.03
	CV %	30.51	34.54	32.62	30.77	30.00	31.13
All Cases	Mean	635.40	35.90	48.20	16.80	2.50	0.43
n: 111	St Err	16.50	1.20	1.30	0.48	0.07	0.01
	CV %	27.36	35.22	28.42	30.10	29.50	24.50
Control 2	Mean	606.30	31.70	45.80	15.50	2.34	0.41
n:54	StErr	17.20	1.20	1.40	0.51	0.07	0.02
	CV %	20.85	27.82	22.46	24.18	21.98	35.85
Control 3	Mean	608.10	31.30	45.10	15.30	2.34	0.40
n:116	StErr	17.20	1.20	1.40	0.51	0.07	0.01
	CV %	30.46	41.29	33.43	35.90	32.22	26.93
All Controls	Mean	607.50	31.40	45.30	15.32	2.34	0.40
n: 170	St Err	13.80	0.95	1.20	0.41	0.05	0.01
	CV %	29.62	39.45	34.54	34.89	27.85	29.34

Table 3.6 Case and Control Comparison Statistics for all grids. Δ = difference between mean values, s_{Δ} one σ estimated error on Δ, p = p value.

Grid 1	K (Bq/kg)	eU (Bq/kg)	eTh (Bq/kg)	Alpha (Bq/kg)	Beta (mGy/a)	Gamma (mGy/a)
Cases	651.10	38.70	49.00	17.60	2.56	0.43
n:211	19.80	0.59	0.57	0.22	0.06	0.01
Controls	627.60	38.40	48.80	17.50	2.49	0.42
n:300	15.70	0.52	0.52	0.20	0.05	0.01
Δ	23.50	0.38	0.19	0.12	0.07	0.01
s_{Δ}	25.00	0.80	0.75	0.30	0.08	0.01
p	0.35	0.63	0.81	0.70	0.35	0.31
Grid 2						
Cases	650.60	32.50	44.70	15.50	2.46	0.42
n:50	24.00	1.10	1.20	0.42	0.08	0.02
Controls	681.30	33.70	46.50	16.10	2.58	0.43
n:131	13.80	0.49	0.51	0.18	0.04	0.01
Δ	-30.70	-1.25	-1.77	-0.60	-0.11	0.00
s_{Δ}	26.70	1.10	1.10	0.38	0.09	0.02
p	0.27	0.31	0.16	0.20	0.23	0.65
Grid 3						
Cases	635.40	35.90	48.20	16.80	2.50	0.43
n:ll1	16.50	1.20	1.30	0.48	0.07	0.01
Controls	607.50	31.40	45.30	15.32	2.34	0.40
n:170	13.80	0.95	1.20	0.41	0.30	0.01
Δ	27.90	4.51	2.90	1.55	0.15	0.02
s_{Δ}	21.70	1.60	1.80	0.63	0.09	0.01
p	0.10	0.003	0.20	0.016	0.08	0.14

From table 3.3, it can be seen for Grid 1 that whereas the mean potassium and beta dose rate levels for cases are slightly higher than for controls, the corresponding values for eU, eTh, Alpha and gamma dose rates are similar, and that coefficients of variation are only slightly diminished compared with the overall environmental summary statistics presented in section 2. For grid 2 (Table 3.4), again only small differences (both positive and negative) are found between the case and control groups. However, positive differences are consistently found between cases and controls for all radiation variables for Grid 3 (Table 3.5). Table 3.6 shows the summary statistics for all cases and controls combined for each grid, including estimated differences between means, their corresponding standard errors and putative p values. Grid 3 shows the largest positive differences between cases and controls.

For most variables and grids then the differences between mean levels for cases and controls are not significant on the basis of the p values. Some general trends can however be noted. In grid 1 the cases, on average, are located in areas with slightly higher radiation levels than their controls. Although small, the differences observed in the low LET sources (40-K, beta, gamma) are less likely to be due to chance than those associated with high LET sources. By contrast the cases in grid 2 are on average drawn from locations with slightly lower radiation levels compared to the controls. The eTh signal shows the largest difference, albeit with a non-significant p-value. It is noted that grid 2 has the smallest number of cases, and perhaps should not be considered separately. The lowest p values of all are found in the results from grid 3. Here the eU term and the alpha dose signal both show significant differences at the 95% confidence level between cases and controls (based on an assumed normality). It is of interest to note that the difference is more strongly pronounced in the eU variable than in the Alpha dose rate variable (which is derived from eU and eTh), and that eTh shows no significant difference. Beta dose rates, which are influenced by both eU and K normally, in this case show a slight difference. These qualitative observations are suggestive of a potential link either with ^{222}Rn or ^{226}Ra, which provide two distinct routes for eU derived internal alpha, and perhaps more significantly internal beta doses to people.

Histograms were constructed to illustrate the distribution of all radiation variables for all disease groupings, as well as for the control sets. Examples for all cases and controls are presented in figures 3.3 (^{40}K), 3.4 (eU), 3.5 (eTh) and 3.6 (Gamma dose rate) for all three grids. These figures also show the average levels, and standard deviation for the radiation variables for the distinct disease categories. By comparison with the overall environmental histograms presented in section 2 it is clear that both cases and control groups occupy locations sampling most of the range of environmental radiation variation. There are however differences between the case and control matched distributions, which in general are non-symmetric and show departures from normality. In particular the histograms for K, and Gamma dose rate in grid 1 show marked bi-modality for both cases and controls. When the radiometric maps and population and case locations (figure 3.2) are examined it becomes apparent that this arises as a consequence of the population distribution which has two main centres, coincidentally corresponding to distinct geological areas.

Figure 3.3 Histograms of ^{40}K levels associated with cases and controls for all grids.

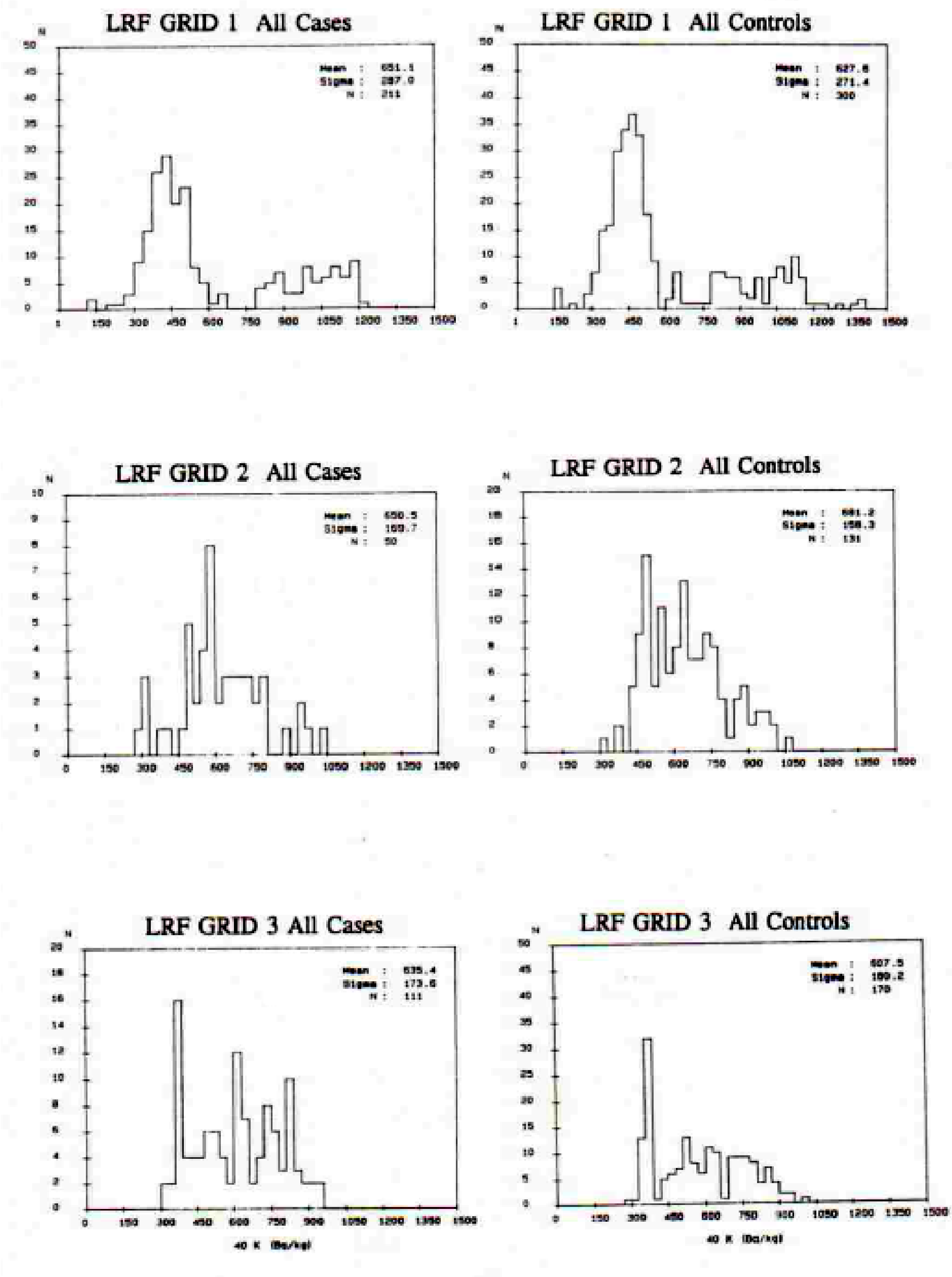


Figure 3.4 Histograms of eU levels associated with cases and controls for all grids.

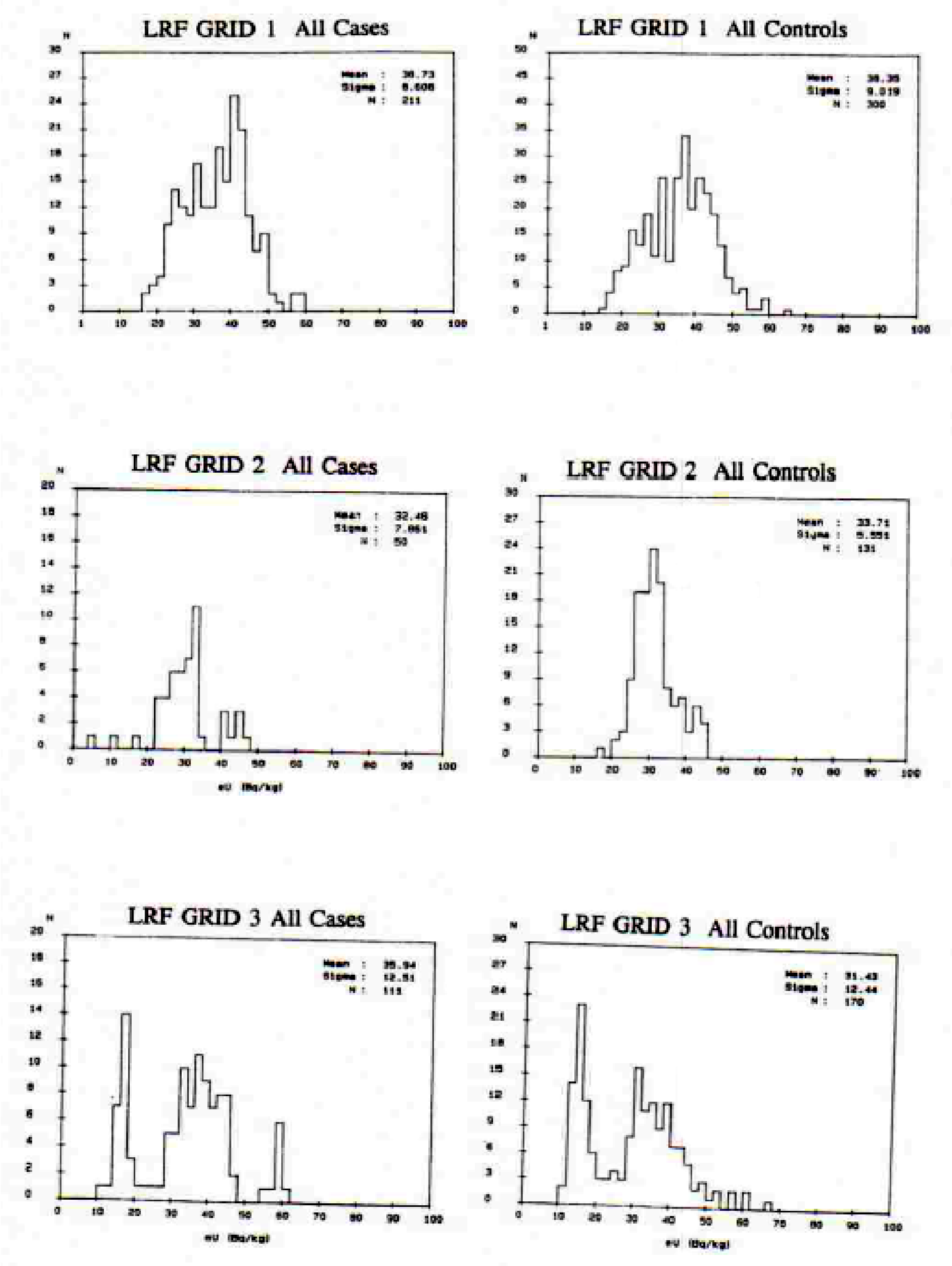


Figure 3.5 Histograms of eTh levels associated with cases and controls for all grids.

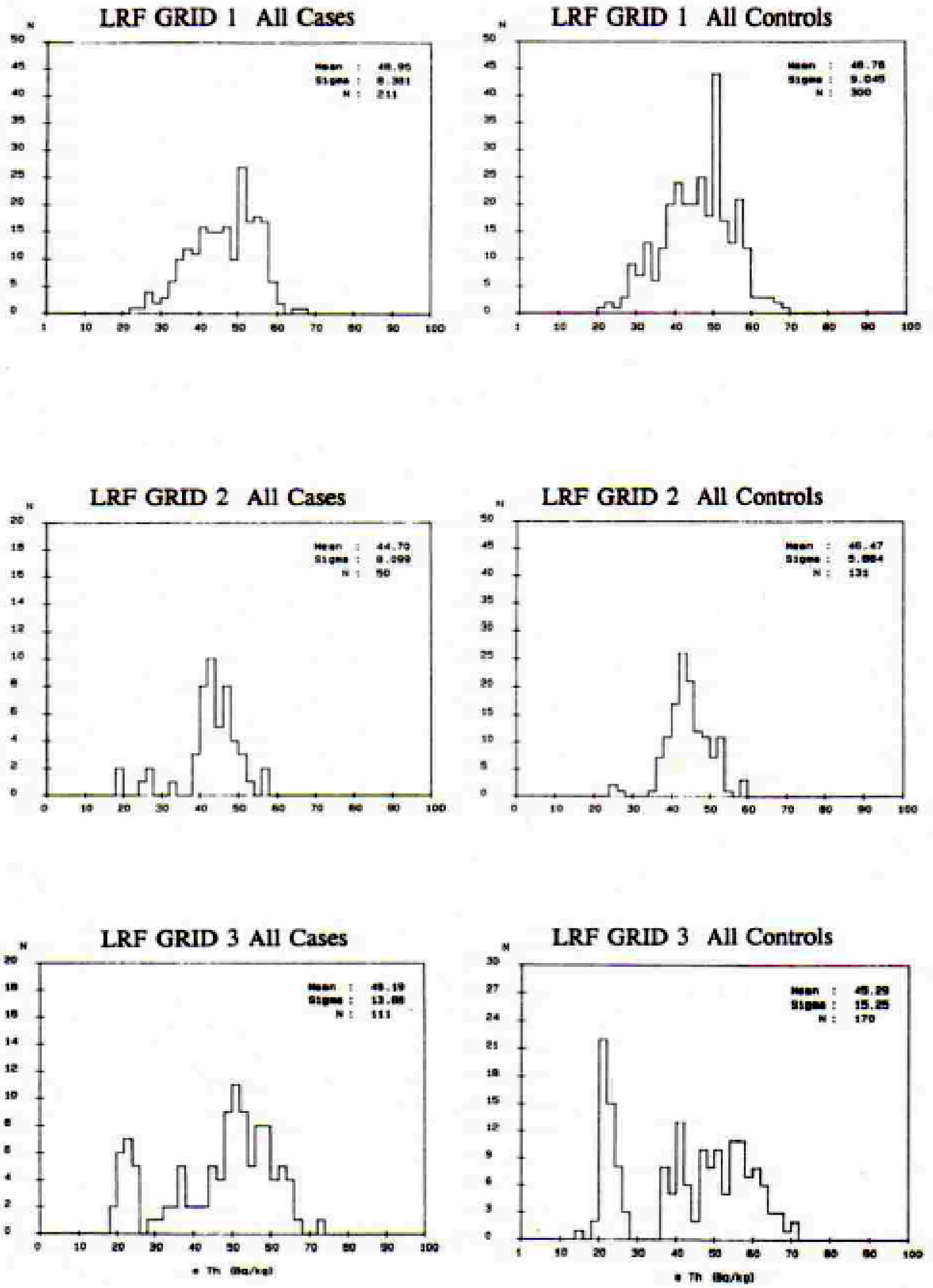
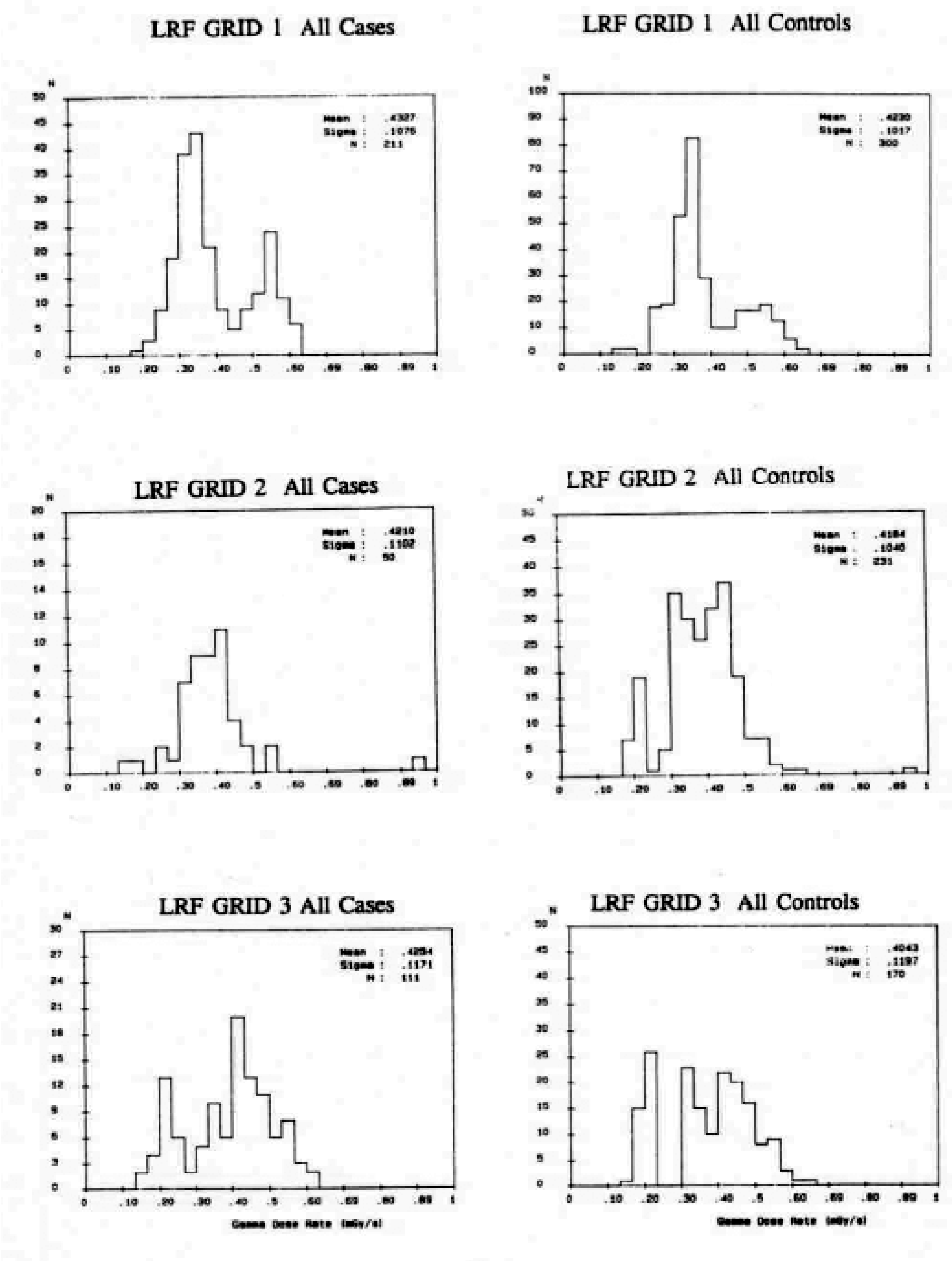


Figure 3.6 Histograms of gamma dose rate levels associated with cases and controls for all grids.



3.2.4 Discussion

The trends observed above should be interpreted with caution in view of the generally low statistical power of the comparison. It was noted that the most significant differences between case and control groups were consistent with a positive association between environmental radiation variables and leukaemia incidence. It was further noted that the variables exhibiting such differences (eU and alpha) might tentatively be associated with a Rn^{222} or ^{226}Ra mechanism, and that these variables were not severely affected by departures from normality. This difference was observed particularly in grid 3, but it can also been shown that the combination of data from all three grids would reveal the same trend.

Grid 2 includes Hinkley Point, and there has been a suggestion that this may be associated with the local leukaemia distribution. The static radiation fields measured here do not provide any substantiation for such an association, although the effect of dynamic sources (eg ^{41}Ar), and the radiation environment of the built up areas of Bridgwater have not been explored.

The departures from normality noted in case and control matched radiation variables in general, and specifically the bimodality observed in potassium and gamma ray data from grid 1 have potentially important implications for case control comparisons. The assumptions of conventional parametric procedures are violated by departures from normality of this sort. Therefore the significance of test statistics must be treated with extreme caution. As noted above distributions of this sort arise because the population are not evenly, or randomly distributed through the geographical, or radiation environments. Therefore the statistical problems which follow from such deviations from normality are likely to occur in other case-control investigations of environmental parameters, and certainly may be expected in ground based radiation linkage studies. It is expected that departures from normality would be less pronounced in studies covering larger geographical areas, since population centres would not in general be expected to reinforce the patterns of the limited areas investigated in this study. Scaling up of the study area, number of cases and populations studied would certainly provide the principal means of improving statistical power to allow the underlying hypothesis of this study to be assessed. However the power of case-control comparisons may not improve by conventionally predicted amounts if normal distributions are not produced in large area studies. The problem of normality therefore provides another impetus for investigating alternative methods of assessing the link between environmental radiation and incidence rates.

3.3 Incidence Rate Analysis

As pointed out in section 3.1 the underlying relationship expected, for stochastic radiation effects is between radiation exposure and the probability of the resulting effect. This is more directly observable using an approach which investigates incidence rate. Furthermore, as observed in the previous section case-control comparisons are sensitive to departures from normality, which unfortunately were not only observed for some variables, but appear to be a likely feature of such an approach. The following analysis of the relationship between incidence rate and radiation variables was designed to provide an alternative to the case-control method which did not suffer from these limitations, and addressed the underlying question in an appropriate manner. The techniques developed have the additional benefits of being easy to match to the form of radiometric data collected, of using all information available across the full range of variation of radiation fields, and of being readily extendable to increase power.

3.3.1 Methodological Approach

As previously discussed, we have 3 sources of spatial information, typically each collected on a differing spatial resolution. They are;

(i) the case data: each case identified by the OS coordinates of the postal code of the place of residence at time of diagnosis,

(ii) the radiation data: in stratified form and typically corresponding to a spatial resolution of at least 500m x 1km. Each radiation value is associated with the OS coordinates of the centre of the grid cell.

(iii) the population data: in this case LRF data were supplemented from the 1981 census small area statistics.

The approach developed can be described in a number of stages involving calculation of stratified radiation variables, evaluation of the number of cases in each stratum and finally estimation of the population in the radiation stratum. The overall method is outlined in figure 3.7, and briefly described below.

3.3.2 Constructing the population density surface.

The population data used here were extracted from the 1981 Census Small Area Statistics. Other sources of area population data could, in principle, be used, as could sub-population data (eg matched to age specific incidence etc) if available. The selection in this case of small area statistics was made since these provided the greatest available spatial resolution. Since the enumeration districts are of variable size and spatial form, the population records do not share the same spatial attributes as the radiometric, or any other environmental data. This was overcome by fitting a surface to the population density, to serve as the basis for estimating population within other spatial units.

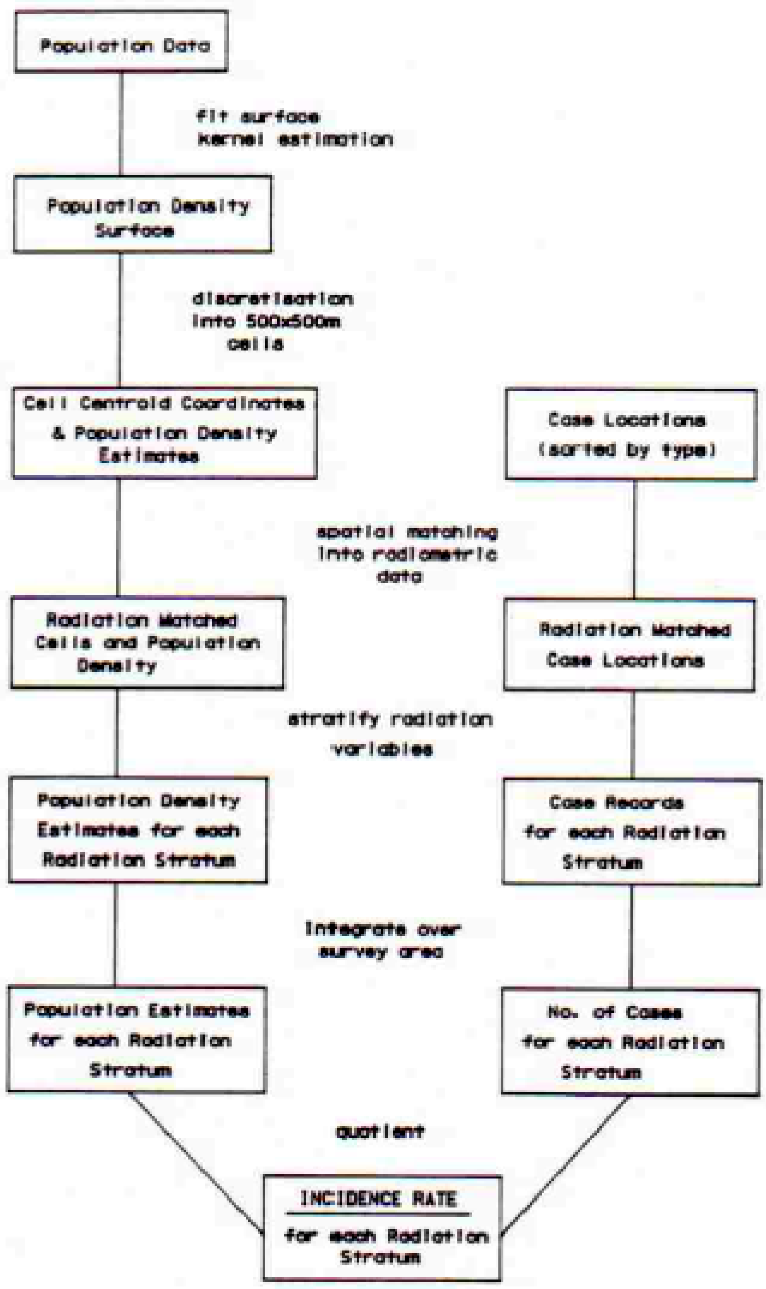
The population surface was constructed using kernel density estimation (Martin,1992). A kernel function (in this case a bivariate Gaussian) is placed at each location (the centroid of the enumeration district). The population density is reconstructed at any point by summing the individual kernel functions. Spatial smoothing is achieved through selection of a smoothing parameter using cross-validation (Martin, 1992).

The population density was then estimated in 500x500m square cells arranged to cover the entire areas of each grid. Centroid coordinates for each population density estimate were calculated.

3.3.3 Spatial Matching to Radiation Variables

Both the case locations and the population density estimates for each 500x500m cell were spatially matched to the radiometric data. This was conducted in the same manner as that used for case-control analysis; namely to form a mean value for each variable inversely weighted to distance between the centroid for each radiation observation and the location. For the population density data, this amounts to re-gridding the radiometric results into regular cartesian form with 500m resolution.

Figure 3.7 Procedure for incidence rate evaluation



3.3.4 Radiometric stratification of population and cases

The levels for each radiation variable were divided into 8 strata. Both case records and population density estimates were then stratified according to their spatially matched radiation values. Cases were then summed to evaluate the numbers within each stratum, and the population density estimates were numerically integrated to provide estimates of the total population associated with each radiation variable stratum.

The spatial distribution - i.e. the fraction of each grid associated with each radiation stratum, is summarised in Table 3.7. It is clear that the majority of survey area lies in the central 3-4 bands, and that only a small proportion is found to have either extremely low, or high values. This will reflect on the power of any analysis, since these extremes will contain only a small proportion of the population.

Table 3.7 Proportion of total area by radiation stratum

eU (Bq/kg)	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Grid 1	0	5.54×10^{-3}	0.215	0.307	0.314	0.138	0.019	1.17×10^{-3}
Grid 2	8.34×10^{-3}	0.111	0.374	0.309	0.179	0.019	0	0
Grid 3	1.80×10^{-3}	0.043	0.135	0.515	0.239	0.037	0.21	7.48×10^{-3}

eTh (Bq/kg)	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Grid 1	-	-	0.045	0.183	0.321	0.357	0.084	9.91×10^{-3}
Grid 2	1.85×10^{-3}	0.0240	0.115	0.067	0.364	0.402	0.026	-
Grid 3	5.16×10^{-4}	7.14×10^{-3}	0.042	0.108	0.213	0.342	0.247	0.035

K40 (Bq/kg)	0-200	200-400	400-600	600-800	800-1000	1000-1200	1200-1400	1400-1600
Grid 1	0.029	0.189	0.541	0.107	0.072	0.053	8.16×10^{-3}	8.75×10^{-3}
Grid 2	0.927×10^{-4}	0.098	0.283	0.736	0.121	0.043	1.85×10^{-3}	-
Grid 3	1.55×10^{-3}	0.073	0.309	0.335	0.270	0.013	-	-

α (mGy/a)	0-4	4-8	8-12	12-16	16-20	20-24	24-28	28-32
Grid 1	-	-	0.086	0.269	0.342	0.274	0.028	-
Grid 2	3.707×10^{-3}	0.0509	0.122	0.369	0.369	0.084	-	-
Grid 3	7.75×10^{-4}	0.013	0.063	0.206	0.446	0.230	0.033	7.49×10^{-3}

β (mGy/a)	0-0.6	0.6-1.2	1.2-1.8	1.8-2.4	2.4-3.0	3.0-3.6	3.6-4.2	4.2-4.8
Grid 1	-	0.049	0.167	0.494	0.148	0.081	0.053	-
Grid 2	-	9.55×10^{-3}	0.106	0.259	0.3616	0.262	0.045	-
Grid 3	-	0.029	0.117	0.330	0.356	0.119	0.048	-

γ (mGy/a)	0-0.1	0.1-0.2	0.2-0.3	0.3-0.4	0.4-0.5	0.5-0.6	0.6-0.7	0.7-0.8
Grid 1	-	9.91×10^{-3}	0.131	0.473	0.249	0.116	0.021	-
Grid 2	-	0.0213	0.085	0.329	0.398	0.111	0.019	-
Grid 3	-	8.52×10^{-3}	0.066	0.250	0.369	0.256	0.041	-

3.3.5 Incidence rate estimation

Incidence rates for each radiation variable were next calculated by taking the quotients of numbers of cases and population estimate by stratum. The uncertainties in estimated incidence rates derive from those on both numerator and denominator. The uncertainties on the numerator derive essentially from the Poisson statistics of the case numbers, a source of random error, together with any systematic limitations of the primary epidemiological records. Those from the denominator combine any limitations in the primary population data with the uncertainties associated with surface construction and estimation procedures.

Since the leukaemia conditions studied in these grids are rare within the general population, leading to small numbers of cases within the survey areas, the random poisson errors in incidence rate estimates are believed to be the main source of uncertainty here. The epidemiological records supplied by the Leeds Centre have been quality assured, and therefore we have no reason to expect systematic biases. After conducting an exploratory error propagation study, it became clear that estimates based on the poisson errors of the numerator were sufficient.

3.3.6 Relationships between incidence rate and radiation stratum

For each grid and radiation variable, the relationship between incidence rate and radiation level has been assessed graphically, by plotting rate against radiation stratum and by fitting a straight line through the data using a weighted least squares approach. Given the limited nature of the data, more complex relationships have not been investigated. In a final step, the grids have been combined to provide an overall assessment of any trends in incidence rate with radiation for the complete survey.

Figures 3.8 to 3.13 show the incidence rate plotted against radiation stratum for each variable, each grid and condition group. The rates, errors and best fitting straight line are all shown. Tables 3.8 to 3.13 summarise the incidence rate data and the results of the weighted least squares analysis.

Taking the figures and tables together it can be seen that there is no consistent trend for all variables and conditions, and that the majority of regression slopes are non-significant. One reason for lack of significance is the high poisson errors associated with the numerator of the incidence rate. This in turn is a direct reflection of the small number of cases available within this study area and the time range for which epidemiological results were available. There are however some features worthy of comment for individual radiation variables. They are as follows:

Potassium shows no significant pattern or trend. Uranium is the only variable showing positive associations in the majority of condition-grid combinations. The only pronounced negative slope occurs in grid 2 condition group 2 (for which there are only two incidence rate estimates due to lack of cases). Of these positive trends that from grid 1 group 2 was significant at the 5% level; the totals over the grids for groups 2 and 3 (ie myeloproliferative and AML) were significant at the 1σ level and only marginally failed the 2σ significance (p 0.07-0.08). It is interesting to note that these trends are similar to those observed in the case-control analysis in section 3.2. For eTh the predominant trends were negative.

Figure 3.8 Stratified Incidence Rate plots for ^{40}K

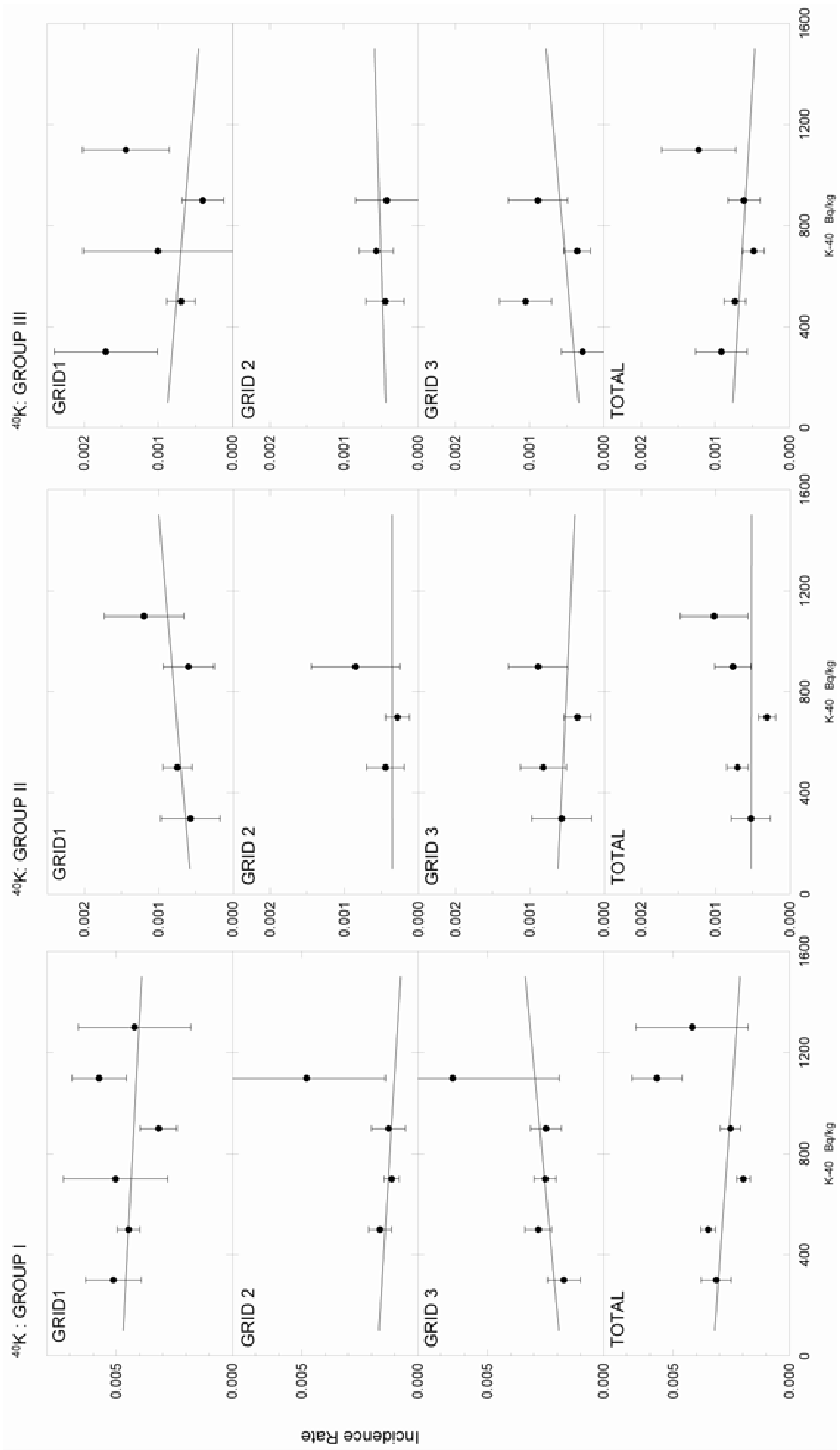


Figure 3.9 Stratified Incidence Rate plots for eU

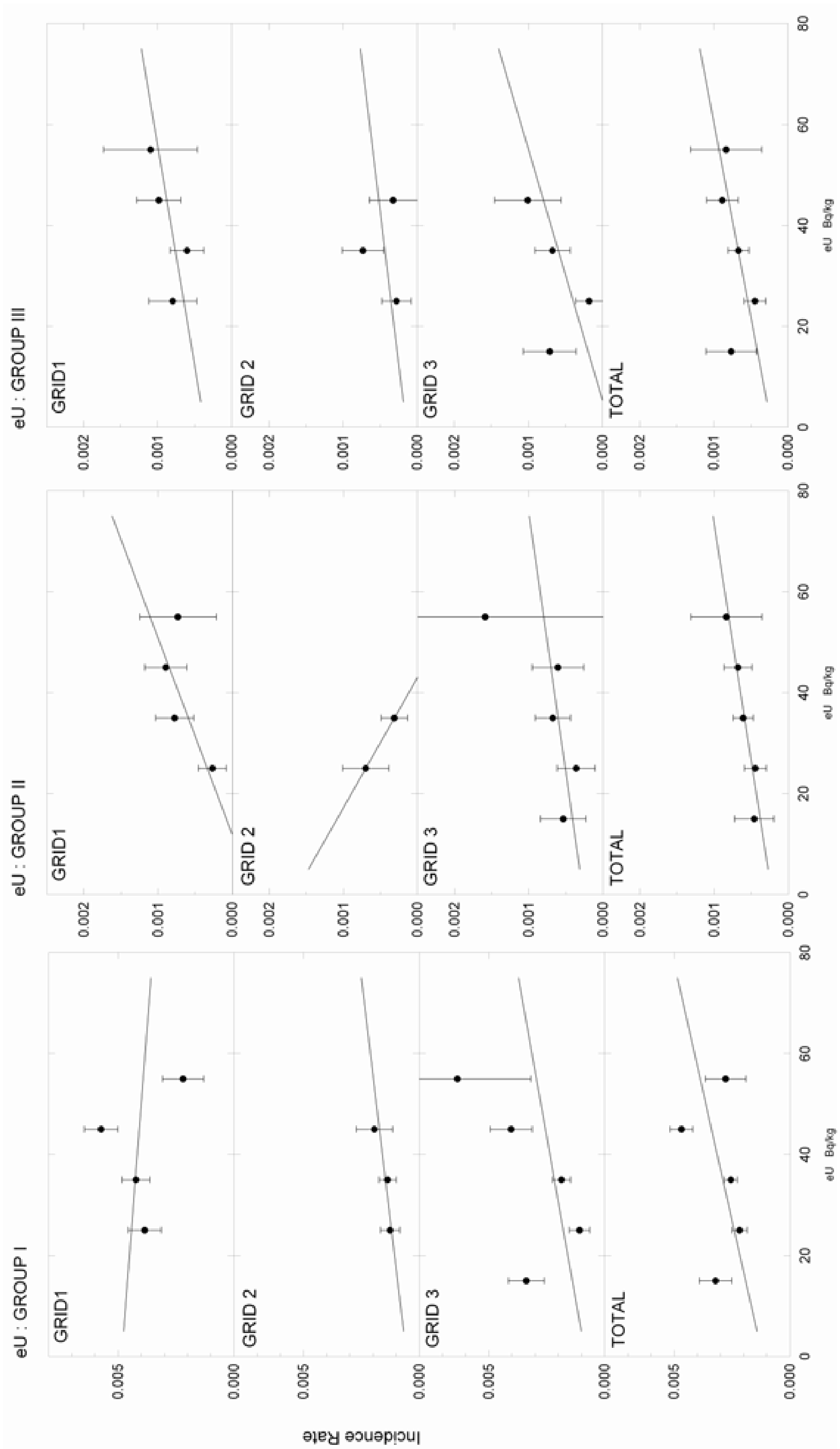


Figure 3.10 Stratified Incidence Rate plots for eTh

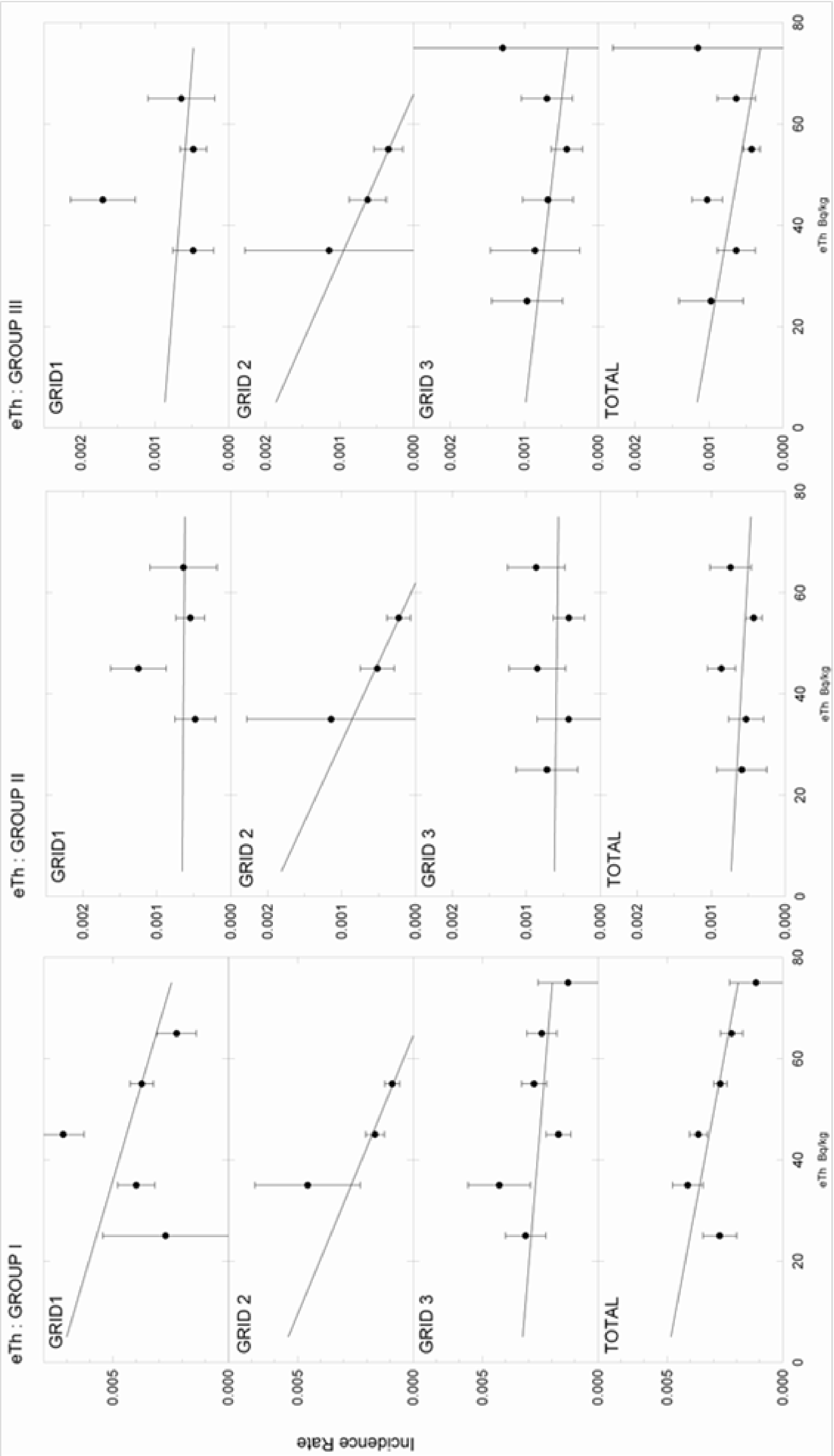


Figure 3.11 Stratified Incidence Rate plots for Alpha dose rate

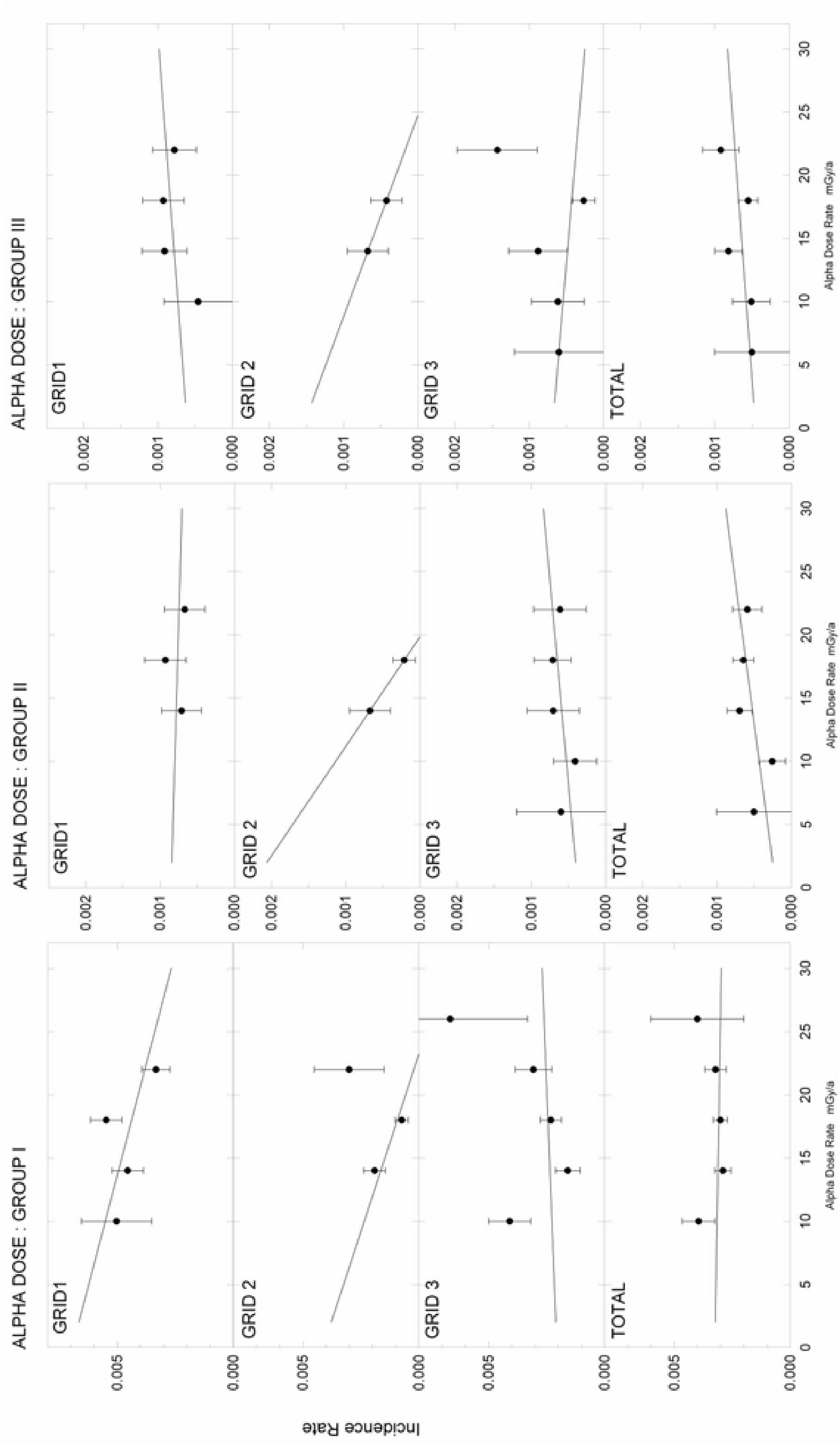


Figure 3.12 Stratified Incidence Rate plots for Beta dose rate

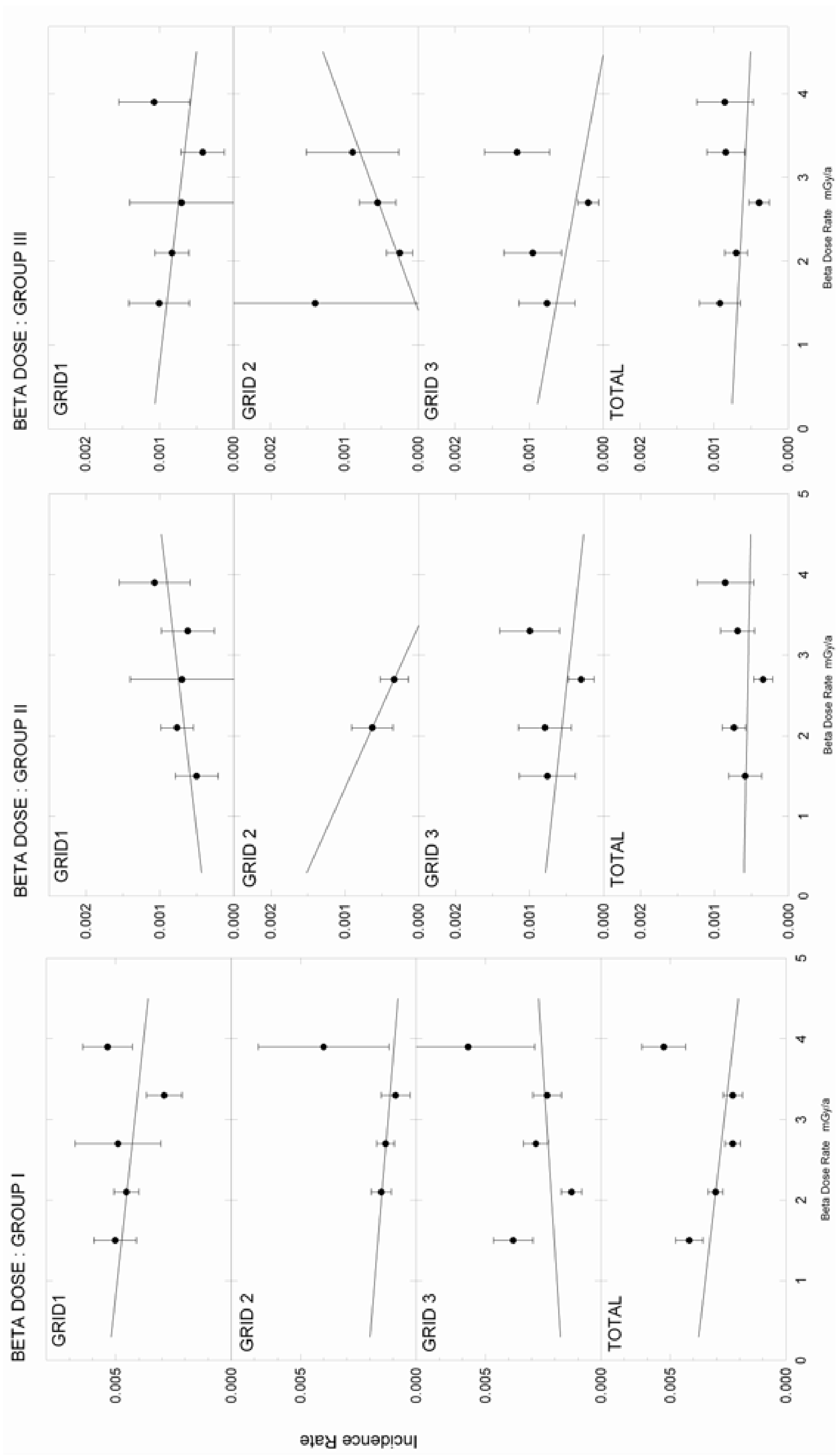


Figure 3.13 Stratified Incidence Rate plots for Gamma dose rate

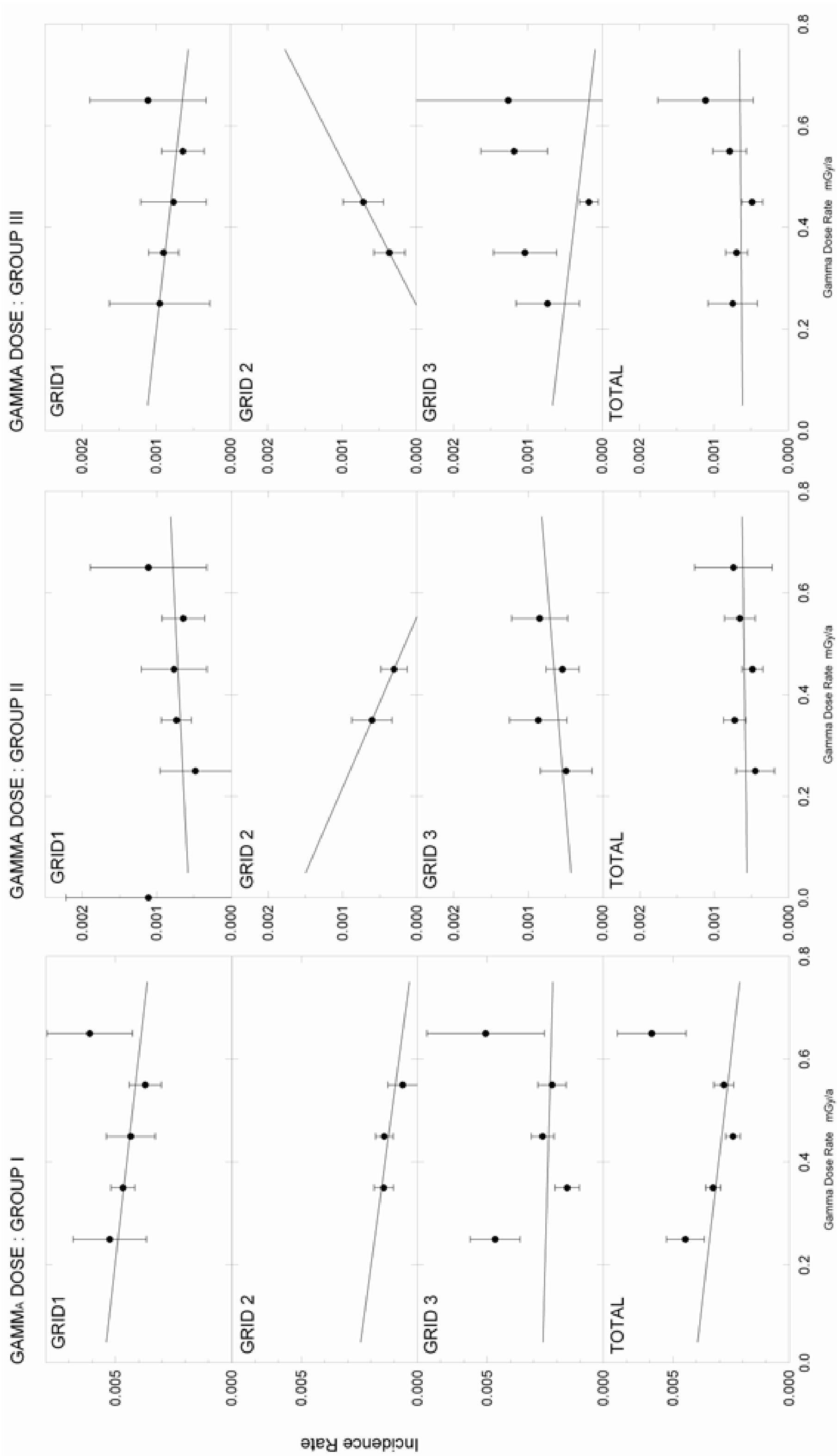


Table 3.8 Stratified Incidence Rate data for ^{40}K

K: Lymphoproliferative Diseases

Activity ($Bq\ kg^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-200	$(7.2 \pm 7.2) \times 10^{-2}$	----	----	$(17 \pm 17) \times 10^{-3}$
200-400	$(5.1 \pm 1.2) \times 10^{-3}$	----	$(1.7 \pm 0.7) \times 10^{-3}$	$(3.1 \pm 0.6) \times 10^{-3}$
400-600	$(4.5 \pm 0.5) \times 10^{-3}$	$(1.6 \pm 0.5) \times 10^{-3}$	$(2.8 \pm 0.6) \times 10^{-3}$	$(3.5 \pm 0.3) \times 10^{-3}$
600-800	$(5.0 \pm 2.2) \times 10^{-3}$	$(1.1 \pm 0.3) \times 10^{-3}$	$(2.5 \pm 0.5) \times 10^{-3}$	$(2.0 \pm 0.3) \times 10^{-3}$
800-1000	$(3.2 \pm 0.8) \times 10^{-3}$	$(1.3 \pm 0.7) \times 10^{-3}$	$(2.5 \pm 0.7) \times 10^{-3}$	$(2.5 \pm 0.4) \times 10^{-3}$
1000-1200	$(5.7 \pm 1.2) \times 10^{-3}$	$(4.8 \pm 3.4) \times 10^{-3}$	$(6.5 \pm 4.6) \times 10^{-3}$	$(5.7 \pm 1.1) \times 10^{-3}$
1200-1400	$(4.2 \pm 2.4) \times 10^{-3}$	----	----	$(4.2 \pm 2.4) \times 10^{-3}$
1400-1600	----	----	----	----
Regression: m	$(-0.6 \pm 14) \times 10^{-6}$	$(-0.7 \pm 1.8) \times 10^{-6}$	$(1.0 \pm 1.1) \times 10^{-6}$	$(-0.8 \pm 1.9) \times 10^{-6}$
c	$(4.7 \pm 1.0) \times 10^{-3}$	$(1.8 \pm 1.2) \times 10^{-3}$	$(1.8 \pm 0.8) \times 10^{-3}$	$(3.3 \pm 1.3) \times 10^{-3}$

K: Myeloproliferative Disorders

Activity ($Bq\ kg^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-200	----	----	----	----
200-400	$(5.7 \pm 4.0) \times 10^{-4}$	----	$(5.7 \pm 4.0) \times 10^{-4}$	$(5.2 \pm 2.6) \times 10^{-4}$
400-600	$(7.4 \pm 2.0) \times 10^{-4}$	$(4.4 \pm 2.5) \times 10^{-4}$	$(8.2 \pm 3.1) \times 10^{-4}$	$(7.0 \pm 1.4) \times 10^{-4}$
600-800	----	$(2.8 \pm 1.6) \times 10^{-4}$	$(3.6 \pm 1.8) \times 10^{-4}$	$(3.1 \pm 1.2) \times 10^{-4}$
800-1000	$(6.0 \pm 3.4) \times 10^{-4}$	$(8.5 \pm 6.0) \times 10^{-4}$	$(8.9 \pm 4.0) \times 10^{-4}$	$(7.7 \pm 2.4) \times 10^{-4}$
1000-1200	$(11.9 \pm 5.3) \times 10^{-4}$	----	----	$(10.2 \pm 4.5) \times 10^{-4}$
1200-1400	----	----	----	----
1400-1600	----	----	----	----
Regression: m	$(0.3 \pm 0.4) \times 10^{-6}$	$(0.002 \pm 1.2) \times 10^{-6}$	$(-0.2 \pm 0.9) \times 10^{-6}$	$(0.003 \pm 0.6) \times 10^{-6}$
c	$(0.5 \pm 0.3) \times 10^{-3}$	$(0.4 \pm 0.8) \times 10^{-3}$	$(0.6 \pm 0.6) \times 10^{-3}$	$(0.5 \pm 0.5) \times 10^{-3}$

K: Acute Myeloid Leukaemia

Activity ($Bq\ kg^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-200	----	----	----	----
200-400	$(17.1 \pm 7.0) \times 10^{-4}$	----	$(2.8 \pm 2.8) \times 10^{-4}$	$(9.2 \pm 3.5) \times 10^{-4}$
400-600	$(6.9 \pm 1.9) \times 10^{-4}$	$(4.4 \pm 2.6) \times 10^{-4}$	$(10.5 \pm 3.5) \times 10^{-4}$	$(7.3 \pm 1.5) \times 10^{-4}$
600-800	$(10.0 \pm 10.0) \times 10^{-4}$	$(5.6 \pm 2.3) \times 10^{-4}$	$(3.6 \pm 1.8) \times 10^{-4}$	$(4.8 \pm 1.5) \times 10^{-4}$
800-1000	$(4.0 \pm 2.8) \times 10^{-4}$	$(4.2 \pm 4.2) \times 10^{-4}$	$(8.9 \pm 3.9) \times 10^{-4}$	$(6.1 \pm 2.2) \times 10^{-4}$
1000-1200	$(1.4 \pm 5.8) \times 10^{-4}$	----	----	$(12.2 \pm 4.9) \times 10^{-4}$
1200-1400	----	----	----	----
1400-1600	----	----	----	----
Regression: m	$(-0.3 \pm 0.9) \times 10^{-6}$	$(0.1 \pm 0.4) \times 10^{-6}$	$(0.3 \pm 1.0) \times 10^{-6}$	$(-0.2 \pm 0.5) \times 10^{-6}$
c	$(0.9 \pm 0.6) \times 10^{-3}$	$(0.4 \pm 0.2) \times 10^{-3}$	$(0.3 \pm 0.7) \times 10^{-3}$	$(0.8 \pm 0.3) \times 10^{-3}$

Table 3.9 Stratified Incidence Rate data for eU

eU: Lymphoproliferative Diseases

Activity (Bq kg^{-1})	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-10	----	----	----	----
10-20	$(10.4 \pm 7.4) \times 10^{-3}$	----	$(3.4 \pm 0.8) \times 10^{-3}$	$(3.2 \pm 0.7) \times 10^{-3}$
20-30	$(3.8 \pm 0.7) \times 10^{-3}$	$(1.3 \pm 0.4) \times 10^{-3}$	$(1.1 \pm 0.4) \times 10^{-3}$	$(2.2 \pm 0.3) \times 10^{-3}$
30-40	$(4.2 \pm 0.6) \times 10^{-3}$	$(1.4 \pm 0.4) \times 10^{-3}$	$(1.8 \pm 0.4) \times 10^{-3}$	$(2.5 \pm 0.3) \times 10^{-3}$
40-50	$(5.7 \pm 0.7) \times 10^{-3}$	$(1.9 \pm 0.8) \times 10^{-3}$	$(4.0 \pm 0.9) \times 10^{-3}$	$(4.7 \pm 0.5) \times 10^{-3}$
50-60	$(2.2 \pm 0.9) \times 10^{-3}$	----	$(6.3 \pm 3.2) \times 10^{-3}$	$(2.8 \pm 0.9) \times 10^{-3}$
60-70	$(10.1 \pm 10.1) \times 10^{-3}$	----	$(13.6 \pm 7.9) \times 10^{-3}$	$(12.5 \pm 6.2) \times 10^{-3}$
70-80	----	----	----	----
Regression: m	$(-1.7 \pm 5.7) \times 10^{-5}$	$(2.6 \pm 1.6) \times 10^{-5}$	$(3.9 \pm 6.1) \times 10^{-5}$	$(4.9 \pm 3.9) \times 10^{-5}$
c	$(4.8 \pm 2.2) \times 10^{-3}$	$(5.4 \pm 5.3) \times 10^{-4}$	$(0.8 \pm 1.9) \times 10^{-3}$	$(1.2 \pm 1.3) \times 10^{-3}$

eU: Myeloproliferative Disorders

Activity (Bq kg^{-1})	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-10	----	----	----	----
10-20	----	----	$(5.3 \pm 3.1) \times 10^{-4}$	$(4.6 \pm 2.6) \times 10^{-4}$
20-30	$(2.7 \pm 1.9) \times 10^{-4}$	$(7.0 \pm 3.1) \times 10^{-4}$	$(3.6 \pm 2.5) \times 10^{-4}$	$(4.4 \pm 1.5) \times 10^{-4}$
30-40	$(7.8 \pm 2.6) \times 10^{-4}$	$(3.1 \pm 1.8) \times 10^{-4}$	$(6.7 \pm 2.4) \times 10^{-4}$	$(6.1 \pm 1.4) \times 10^{-4}$
40-50	$(8.9 \pm 2.8) \times 10^{-4}$	----	$(6.0 \pm 3.5) \times 10^{-4}$	$(6.8 \pm 1.9) \times 10^{-4}$
50-60	$(7.3 \pm 5.2) \times 10^{-4}$	----	$(1.6 \pm 1.6) \times 10^{-3}$	$(8.3 \pm 4.8) \times 10^{-4}$
60-70	$(10.0 \pm 10.0) \times 10^{-4}$	----	$(4.5 \pm 4.5) \times 10^{-3}$	$(6.3 \pm 4.4) \times 10^{-4}$
70-80	----	----	----	----
Regression: m	$(2.5 \pm 1.0) \times 10^{-5}$	-3.9×10^{-5}	$(9.7 \pm 8.5) \times 10^{-6}$	$(10.6 \pm 5.4) \times 10^{-6}$
c	$(-0.3 \pm 0.4) \times 10^{-3}$	1.6×10^{-3}	$(2.6 \pm 2.7) \times 10^{-4}$	$(0.2 \pm 0.2) \times 10^{-3}$

eU: Acute Myeloid Leukaemia

Activity (Bq kg^{-1})	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-10	----	----	----	----
10-20	$(5.2 \pm 5.2) \times 10^{-3}$	----	$(7.1 \pm 3.6) \times 10^{-4}$	$(7.6 \pm 3.4) \times 10^{-4}$
20-30	$(7.9 \pm 3.2) \times 10^{-4}$	$(2.8 \pm 2.0) \times 10^{-4}$	$(1.8 \pm 1.8) \times 10^{-4}$	$(4.4 \pm 1.5) \times 10^{-4}$
30-40	$(6.0 \pm 2.3) \times 10^{-4}$	$(7.3 \pm 2.8) \times 10^{-4}$	$(6.7 \pm 2.4) \times 10^{-4}$	$(6.7 \pm 1.4) \times 10^{-4}$
40-50	$(9.8 \pm 3.0) \times 10^{-4}$	$(3.2 \pm 3.2) \times 10^{-4}$	$(10.1 \pm 4.5) \times 10^{-4}$	$(8.8 \pm 2.1) \times 10^{-4}$
50-60	$(11 \pm 6.3) \times 10^{-4}$	----	----	$(8.3 \pm 4.8) \times 10^{-4}$
60-70	----	----	$(4.5 \pm 4.5) \times 10^{-4}$	$(3.1 \pm 3.1) \times 10^{-4}$
70-80	----	----	----	----
Regression: m	$(1.1 \pm 1.3) \times 10^{-5}$	$(8.3 \pm 23) \times 10^{-6}$	$(2.0 \pm 1.9) \times 10^{-5}$	$(1.2 \pm 0.7) \times 10^{-5}$
c	$(0.4 \pm 0.5) \times 10^{-3}$	$(0.2 \pm 0.8) \times 10^{-3}$	$(-0.1 \pm 0.6) \times 10^{-3}$	$(0.2 \pm 0.2) \times 10^{-4}$

Table 3.10 Stratified Incidence Rate data for eTh

eTh: Lymphoproliferative Diseases

Activity ($Bq\ kg^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-10	----	----	----	----
10-20	----	----	----	----
20-30	$(2.7 \pm 2.7) \times 10^{-3}$	----	$(3.1 \pm 0.9) \times 10^{-3}$	$(2.7 \pm 0.7) \times 10^{-3}$
30-40	$(4.0 \pm 0.8) \times 10^{-3}$	$(4.6 \pm 2.3) \times 10^{-3}$	$(4.3 \pm 1.3) \times 10^{-3}$	$(4.1 \pm 0.7) \times 10^{-3}$
40-50	$(7.1 \pm 0.9) \times 10^{-3}$	$(1.6 \pm 0.4) \times 10^{-3}$	$(1.7 \pm 0.5) \times 10^{-3}$	$(3.6 \pm 0.4) \times 10^{-3}$
50-60	$(3.7 \pm 0.5) \times 10^{-3}$	$(0.9 \pm 0.3) \times 10^{-3}$	$(2.8 \pm 0.5) \times 10^{-3}$	$(2.7 \pm 0.3) \times 10^{-3}$
60-70	$(2.2 \pm 0.8) \times 10^{-3}$	----	$(2.4 \pm 0.6) \times 10^{-3}$	$(2.2 \pm .05) \times 10^{-3}$
70-80	----	----	$(1.3 \pm 1.3) \times 10^{-3}$	$(1.2 \pm 1.2) \times 10^{-3}$
Regression: m	$(-6.5 \pm 7.1) \times 10^{-5}$	$(-9.1 \pm 4.3) \times 10^{-5}$	$(-1.8 \pm 2.4) \times 10^{-5}$	$(-4.1 \pm 2.0) \times 10^{-5}$
c	$(7.3 \pm 3.7) \times 10^{-3}$	$(5.9 \pm 2.2) \times 10^{-3}$	$(3.3 \pm 1.3) \times 10^{-3}$	$(5.1 \pm 1.0) \times 10^{-3}$

eTh: Myeloproliferative Disorders

Activity ($Bq\ kg^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-10	----	----	----	----
10-20	----	----	----	----
20-30	----	----	$(7.2 \pm 4.2) \times 10^{-4}$	$(5.8 \pm 3.4) \times 10^{-4}$
30-40	$(4.8 \pm 2.8) \times 10^{-4}$	$(11.4 \pm 11.4) \times 10^{-4}$	$(4.3 \pm 4.3) \times 10^{-4}$	$(5.3 \pm 2.4) \times 10^{-4}$
40-50	$(12.5 \pm 3.8) \times 10^{-4}$	$(5.2 \pm 2.3) \times 10^{-4}$	(8.5 ± 3.8) X 10^{-4}	$(8.6 \pm 1.9) \times 10^{-4}$
50-60	$(5.5 \pm 1.9) \times 10^{-4}$	$(2.3 \pm 1.6) \times 10^{-4}$	$(4.3 \pm 2.1) \times 10^{-4}$	$(4.2 \pm 1.1) \times 10^{-4}$
60-70	$(6.4 \pm 4.5) \times 10^{-4}$	----	$(8.7 \pm 3.9) \times 10^{-4}$	$(7.4 \pm 2.8) \times 10^{-4}$
70-80	----	----	----	----
Regression: m	$(-0.5 \pm 18) \times 10^{-6}$	$(-3.1 \pm 0.7) \times 10^{-5}$	$(-0.8 \pm 9.3) \times 10^{-6}$	$(-3.8 \pm 9.6) \times 10^{-6}$
c	$(0.7 \pm 0.9) \times 10^{-3}$	$(2.0 \pm 0.3) \times 10^{-3}$	$(0.6 \pm 0.5) \times 10^{-3}$	$(0.7 \pm 0.5) \times 10^{-3}$

eTh: Acute Myeloid Leukaemia

Activity ($Bq\ kg^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-10	----	----	----	----
10-20	----	----	----	----
20-30	$(27 \pm 27) \times 10^{-4}$	----	$(9.6 \pm 4.8) \times 10^{-4}$	$(9.7 \pm 4.3) \times 10^{-4}$
30-40	$(4.8 \pm 2.7) \times 10^{-4}$	$(1.1 \pm 1.1) \times 10^{-4}$	$(8.5 \pm 6.0) \times 10^{-4}$	$(6.3 \pm 2.6) \times 10^{-4}$
40-50	$(17 \pm 4.4) \times 10^{-4}$	$(6.2 \pm 2.5) \times 10^{-4}$	$(6.8 \pm 3.4) \times 10^{-4}$	$(10.2 \pm 2.0) \times 10^{-4}$
50-60	$(4.7 \pm 1.8) \times 10^{-4}$	$(3.4 \pm 1.9) \times 10^{-4}$	$(4.2 \pm 2.1) \times 10^{-4}$	$(4.2 \pm 1.1) \times 10^{-4}$
60-70	$(6.4 \pm 4.5) \times 10^{-4}$	----	$(6.9 \pm 3.5) \times 10^{-4}$	$(6.3 \pm 2.5) \times 10^{-4}$
70-80	----	----	$(1.3 \pm 1.3) \times 10^{-4}$	$(12 \pm 12) \times 10^{-4}$
Regression: m	$(-5.5 \pm 22) \times 10^{-6}$	$(-3.0 \pm 0.6) \times 10^{-5}$	$(-8.0 \pm 8.0) \times 10^{-6}$	$(-1.2 \pm 1.0) \times 10^{-5}$
c	$(0.9 \pm 1.1) \times 10^{-3}$	$(2.0 \pm 0.3) \times 10^{-3}$	$(1.0 \pm 0.4) \times 10^{-3}$	$(1.2 \pm 0.6) \times 10^{-3}$

Table 3.11 Stratified Incidence Rate data for Alpha dose rate

Alpha: Lymphoproliferative Diseases

Dose Rate ($mGya^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-4	----	----	----	----
4-8	----	----	----	----
8-12	$(5.0 \pm 1.5) \times 10^{-3}$	----	$(4.1 \pm 0.9) \times 10^{-3}$	$(3.9 \pm 0.7) \times 10^{-3}$
12-16	$(4.6 \pm 0.7) \times 10^{-3}$	$(19.1 \pm 4.6) \times 10^{-3}$	$(1.6 \pm 0.5) \times 10^{-3}$	$(2.9 \pm 0.3) \times 10^{-3}$
16-20	$(5.5 \pm 0.7) \times 10^{-3}$	$(7.4 \pm 2.7) \times 10^{-4}$	$(2.3 \pm 0.5) \times 10^{-3}$	$(3.0 \pm 0.3) \times 10^{-3}$
20-24	$(3.3 \pm 0.6) \times 10^{-3}$	$(30 \pm 15) \times 10^{-4}$	$(3.1 \pm 0.8) \times 10^{-3}$	$(3.2 \pm 0.5) \times 10^{-3}$
24-28	----	----	$(6.6 \pm 3.3) \times 10^{-3}$	$(4.0 \pm 2.0) \times 10^{-3}$
28-32	----	----	----	----
Regression: m	$(-14 \pm 13) \times 10^{-5}$	$(-17 \pm 25) \times 10^{-5}$	$(2 \pm 14) \times 10^{-5}$	$(-0.9 \pm 0.5) \times 10^{-5}$
c	$(6.9 \pm 2.4) \times 10^{-3}$	$(4.1 \pm 4.3) \times 10^{-3}$	$(2.1 \pm 2.3) \times 10^{-3}$	$(-3.2 \pm 0.8) \times 10^{-3}$

Alpha: Myeloproliferative Disorders

Dose Rate ($mGya^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-4	----	----	----	----
4-8	----	----	$(6.0 \pm 6.0) \times 10^{-4}$	$(5.0 \pm 5.0) \times 10^{-4}$
8-12	----	----	$(4.1 \pm 2.9) \times 10^{-4}$	$(2.5 \pm 1.8) \times 10^{-4}$
12-16	$(7.1 \pm 2.7) \times 10^{-4}$	$(6.7 \pm 2.7) \times 10^{-4}$	$(7.0 \pm 3.5) \times 10^{-4}$	$(6.9 \pm 1.7) \times 10^{-4}$
16-20	$(9.3 \pm 2.8) \times 10^{-4}$	$(2.1 \pm 1.5) \times 10^{-4}$	$(7.1 \pm 2.5) \times 10^{-4}$	$(6.4 \pm 1.4) \times 10^{-4}$
20-24	$(6.7 \pm 2.7) \times 10^{-4}$	----	$(6.1 \pm 3.5) \times 10^{-4}$	$(5.9 \pm 2.0) \times 10^{-4}$
24-28	----	----	----	----
28-32	----	----	----	----
Regression: m	$(-5 \pm 34) \times 10^{-6}$	-116×10^{-6}	$(15 \pm 12) \times 10^{-6}$	$(3 \pm 17) \times 10^{-6}$
c	$(0.9 \pm 0.6) \times 10^{-3}$	2.2×10^{-3}	$(0.4 \pm 0.2) \times 10^{-3}$	$(0.2 \pm 0.3) \times 10^{-3}$

Alpha: Acute Myeloid Leukaemia

Dose Rate ($mGya^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-4	----	----	----	----
4-8	----	----	$(6.0 \pm 6.0) \times 10^{-4}$	$(5.0 \pm 5.0) \times 10^{-4}$
8-12	$(4.6 \pm 4.6) \times 10^{-4}$	----	$(6.1 \pm 3.5) \times 10^{-4}$	$(5.1 \pm 2.5) \times 10^{-4}$
12-16	$(9.1 \pm 3.0) \times 10^{-4}$	$(6.7 \pm 2.7) \times 10^{-4}$	$(8.8 \pm 3.9) \times 10^{-4}$	$(8.1 \pm 1.8) \times 10^{-4}$
16-20	$(9.3 \pm 2.8) \times 10^{-4}$	$(4.2 \pm 2.1) \times 10^{-4}$	$(2.7 \pm 1.5) \times 10^{-4}$	$(5.5 \pm 1.3) \times 10^{-4}$
20-24	$(7.8 \pm 2.9) \times 10^{-4}$	----	$(14.2 \pm 5.4) \times 10^{-4}$	$(9.2 \pm 2.5) \times 10^{-4}$
24-28	----	----	----	----
28-32	----	----	----	----
Regression: m	$(1.3 \pm 2.4) \times 10^{-5}$	-6.2×10^{-5}	$(-1.4 \pm 4.7) \times 10^{-5}$	$(1.2 \pm 2.1) \times 10^{-5}$
c	$(6.0 \pm 4.4) \times 10^{-3}$	1.5×10^{-3}	$(0.7 \pm 0.8) \times 10^{-3}$	$(0.5 \pm 0.4) \times 10^{-3}$

Table 3.12 Stratified Incidence Rate data for Beta dose rate

Beta: Lymphoproliferative Diseases

Dose Rate ($mGya^{-1}$)	Incidence Rate Grid 1	Grid 2	Grid 3	Total
0-0.6	----	----	----	----
0.6-1.2	----	----	----	----
1.2-1.8	$(5.0 \pm 0.9) \times 10^{-3}$	----	$(3.8 \pm 0.8) \times 10^{-3}$	$(4.2 \pm 0.6) \times 10^{-3}$
1.8-2.4	$(4.5 \pm 0.5) \times 10^{-3}$	$(1.5 \pm 0.4) \times 10^{-3}$	$(1.3 \pm 0.4) \times 10^{-3}$	$(3.0 \pm 0.3) \times 10^{-3}$
2.4-3.0	$(4.9 \pm 1.8) \times 10^{-3}$	$(1.3 \pm 0.4) \times 10^{-3}$	$(2.8 \pm 0.5) \times 10^{-3}$	$(2.3 \pm 0.3) \times 10^{-3}$
3.0-3.6	$(2.9 \pm 0.8) \times 10^{-3}$	$(0.9 \pm 0.6) \times 10^{-3}$	$(2.3 \pm 0.6) \times 10^{-3}$	$(2.3 \pm 0.4) \times 10^{-3}$
3.6-4.2	$(5.4 \pm 1.1) \times 10^{-3}$	$(4.0 \pm 2.8) \times 10^{-3}$	$(5.7 \pm 2.9) \times 10^{-3}$	$(5.3 \pm 0.9) \times 10^{-3}$
4.2-4.8	----	----	----	----
Regression: m	$(-3.8 \pm 5.7) \times 10^{-4}$	$(-2.9 \pm 4.8) \times 10^{-4}$	$(2.3 \pm 9.1) \times 10^{-4}$	$(-4.1 \pm 6.8) \times 10^{-4}$
c	$(5.3 \pm 1.5) \times 10^{-3}$	$(2.1 \pm 1.3) \times 10^{-3}$	$(1.7 \pm 2.3) \times 10^{-3}$	$(3.9 \pm 1.8) \times 10^{-3}$

Beta: Myeloproliferative Disorders

Dose Rate ($mGya^{-1}$)	Incidence Rate Grid 1	Grid 2	Grid 3	Total
0-0.6	----	----	----	----
0.6-1.2	----	----	----	----
1.2-1.8	$(5.0 \pm 2.8) \times 10^{-4}$	----	$(7.6 \pm 3.8) \times 10^{-4}$	$(5.8 \pm 2.2) \times 10^{-4}$
1.8-2.4	$(7.7 \pm 2.2) \times 10^{-4}$	$(6.3 \pm 2.8) \times 10^{-4}$	$(7.9 \pm 3.5) \times 10^{-4}$	$(7.3 \pm 1.6) \times 10^{-4}$
2.4-3.0	$(7.0 \pm 7.0) \times 10^{-4}$	$(3.3 \pm 1.9) \times 10^{-4}$	$(3.0 \pm 1.7) \times 10^{-4}$	$(3.4 \pm 1.3) \times 10^{-4}$
3.0-3.6	$(6.2 \pm 3.5) \times 10^{-4}$	----	$(10.0 \pm 4.1) \times 10^{-4}$	$(6.8 \pm 2.3) \times 10^{-4}$
3.6-4.2	$(10.7 \pm 4.7) \times 10^{-4}$	----	----	$(8.5 \pm 3.8) \times 10^{-4}$
4.2-4.8	----	----	----	----
Regression: m	$(1.3 \pm 0.9) \times 10^{-4}$	-4.9×10^{-4}	$(-1.2 \pm 3.7) \times 10^{-4}$	$(-0.2 \pm 1.7) \times 10^{-4}$
c	$(0.4 \pm 0.2) \times 10^{-3}$	1.7×10^{-3}	$(0.8 \pm 1.0) \times 10^{-3}$	$(0.6 \pm 0.4) \times 10^{-3}$

Beta: Acute Myeloid Leukaemia

Dose Rate ($mGya^{-1}$)	Incidence Rate Grid 1	Grid 2	Grid 3	Total
0-0.6	----	----	----	----
0.6-1.2	----	----	----	----
1.2-1.8	$(10.0 \pm 4.1) \times 10^{-4}$	$(13.9 \pm 13.9) \times 10^{-4}$	$(7.6 \pm 3.8) \times 10^{-4}$	$(9.2 \pm 2.8) \times 10^{-4}$
1.8-2.4	$(8.3 \pm 2.3) \times 10^{-4}$	$(2.5 \pm 1.8) \times 10^{-4}$	$(9.5 \pm 3.9) \times 10^{-4}$	$(7.0 \pm 1.5) \times 10^{-4}$
2.4-3.0	$(7.0 \pm 7.0) \times 10^{-4}$	$(5.5 \pm 2.5) \times 10^{-4}$	$(2.0 \pm 1.4) \times 10^{-4}$	$(3.9 \pm 1.4) \times 10^{-4}$
3.0-3.6	$(4.1 \pm 2.9) \times 10^{-4}$	$(8.8 \pm 6.3) \times 10^{-4}$	$(11.6 \pm 4.4) \times 10^{-4}$	$(8.4 \pm 2.5) \times 10^{-4}$
3.6-4.2	$(10.7 \pm 4.7) \times 10^{-4}$	----	----	$(8.5 \pm 3.8) \times 10^{-4}$
4.2-4.8	----	----	----	----
Regression: m	$(-1.3 \pm 1.6) \times 10^{-4}$	$(4.2 \pm 2.8) \times 10^{-4}$	$(-2.1 \pm 5.2) \times 10^{-4}$	$(-0.6 \pm 1.9) \times 10^{-4}$
c	$(1.1 \pm 0.4) \times 10^{-3}$	$(-0.6 \pm 0.7) \times 10^{-3}$	$(1.0 \pm 1.3) \times 10^{-3}$	$(0.7 \pm 0.5) \times 10^{-3}$

Table 3.13 Stratified Incidence Rate data for Gamma dose rate

Gamma: Lymphoproliferative Diseases

Dose Rate ($mGya^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-0.1	----	----	----	----
0.1-0.2	----	----	----	----
0.2-.03	$(5.2 \pm 1.6) \times 10^{-3}$	----	$(4.6 \pm 1.1) \times 10^{-3}$	$(4.5 \pm 0.8) \times 10^{-3}$
0.3-0.4	$(4.7 \pm 0.5) \times 10^{-3}$	$(1.4 \pm 0.4) \times 10^{-3}$	$(1.6 \pm 0.5) \times 10^{-3}$	$(3.3 \pm 0.3) \times 10^{-3}$
0.4-0.5	$(4.3 \pm 1.1) \times 10^{-3}$	$(1.4 \pm 0.4) \times 10^{-3}$	$(2.6 \pm 0.5) \times 10^{-3}$	$(2.4 \pm 0.3) \times 10^{-3}$
0.5-0.6	$(3.7 \pm 0.7) \times 10^{-3}$	$(0.6 \pm 0.6) \times 10^{-3}$	$(2.2 \pm 0.6) \times 10^{-3}$	$(2.8 \pm 0.4) \times 10^{-3}$
0.6-0.7	$(6.1 \pm 1.8) \times 10^{-3}$	$(8.9 \pm 8.9) \times 10^{-3}$	$(5.1 \pm 2.5) \times 10^{-3}$	$(5.9 \pm 1.4) \times 10^{-3}$
0.7-0.8	----	----	----	----
Regression: m	$(-2.5 \pm 2.8) \times 10^{-3}$	$(-3.0 \pm 3.0) \times 10^{-3}$	$(-0.6 \pm 5.3) \times 10^{-3}$	$(-2.6 \pm 4.0) \times 10^{-3}$
c	$(5.5 \pm 1.2) \times 10^{-3}$	$(2.6 \pm 1.3) \times 10^{-3}$	$(2.6 \pm 2.3) \times 10^{-3}$	$(4.1 \pm 1.7) \times 10^{-3}$

Gamma: Myeloproliferative Disorders

Dose Rate ($mGya^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-0.1	----	----	----	----
0.1-0.2	----	----	----	----
0.2-.03	$(4.8 \pm 4.8) \times 10^{-4}$	----	$(4.9 \pm 3.4) \times 10^{-4}$	$(4.5 \pm 2.6) \times 10^{-4}$
0.3-0.4	$(7.3 \pm 2.0) \times 10^{-4}$	$(6.0 \pm 2.7) \times 10^{-4}$	$(8.7 \pm 3.9) \times 10^{-4}$	$(7.2 \pm 1.5) \times 10^{-4}$
0.4-0.5	$(7.6 \pm 4.4) \times 10^{-4}$	$(3.1 \pm 1.8) \times 10^{-4}$	$(5.4 \pm 2.2) \times 10^{-4}$	$(4.8 \pm 1.4) \times 10^{-4}$
0.5-0.6	$(6.4 \pm 2.8) \times 10^{-4}$	----	$(8.4 \pm 3.7) \times 10^{-4}$	$(6.5 \pm 2.1) \times 10^{-4}$
0.6-0.7	$(11.1 \pm 7.8) \times 10^{-4}$	----	----	$(7.4 \pm 5.2) \times 10^{-4}$
0.7-0.8	----	----	----	----
Regression: m	$(3.4 \pm 5.7) \times 10^{-4}$	-29×10^{-4}	$(5.6 \pm 10.5) \times 10^{-4}$	$(0.9 \pm 6.9) \times 10^{-4}$
c	$(0.6 \pm 0.2) \times 10^{-3}$	1.6×10^{-3}	$(0.4 \pm 0.4) \times 10^{-3}$	$(0.6 \pm 0.3) \times 10^{-3}$

Gamma: Acute Myeloid Leukaemia

Dose Rate ($mGya^{-1}$)	Incidence Rate			
	Grid 1	Grid 2	Grid 3	Total
0-0.1	----	----	----	----
0.1-0.2	----	----	----	----
0.2-.03	$(9.5 \pm 6.7) \times 10^{-4}$	----	$(7.3 \pm 4.2) \times 10^{-4}$	$(7.4 \pm 3.3) \times 10^{-4}$
0.3-0.4	$(9.0 \pm 2.3) \times 10^{-4}$	$(3.6 \pm 2.1) \times 10^{-4}$	$(10.3 \pm 4.2) \times 10^{-4}$	$(6.9 \pm 1.5) \times 10^{-4}$
0.4-0.5	$(7.7 \pm 4.4) \times 10^{-4}$	$(7.1 \pm 2.7) \times 10^{-4}$	$(1.8 \pm 1.3) \times 10^{-4}$	$(4.8 \pm 1.4) \times 10^{-4}$
0.5-0.6	$(6.4 \pm 2.8) \times 10^{-4}$	----	$(11.9 \pm 4.5) \times 10^{-4}$	$(7.8 \pm 2.3) \times 10^{-4}$
0.6-0.7	$(11.1 \pm 7.8) \times 10^{-4}$	----	$(12.7 \pm 12.7) \times 10^{-4}$	$(11.1 \pm 6.4) \times 10^{-4}$
0.7-0.8	----	----	----	----
Regression: m	$(-7.8 \pm 5.6) \times 10^{-4}$	3.5×10^{-4}	$(-8.2 \pm 29) \times 10^{-4}$	$(0.6 \pm 9) \times 10^{-4}$
c	$(1.2 \pm 0.2) \times 10^{-3}$	-0.9×10^{-3}	$(0.7 \pm 1.3) \times 10^{-3}$	$(0.6 \pm 0.4) \times 10^{-3}$

Those significant at the 5% level were group 1 grid 2, group 1 total, group 2 grid 2, group 3 grid 2. The total response from group 3 was significant at the 1σ level. Trends from the other variables were of lesser or no significance.

3.3.7 Discussion

Again the interpretation of the results of this analysis must be treated cautiously, given the limited number of cases studied, and the exploratory nature of the analysis. The motivation for conducting the analysis on incidence rate, and it's potential benefits have been clearly identified, however it is recognised that the construction of an appropriate population surface is not straightforward. It might be relevant, for future studies to consider the generation of age-matched population surfaces for each condition under consideration. Furthermore there is scope for further investigation of the limitations of primary population data for these purposes, the sensitivity of the results to the surface fitting procedures, and examination of any potential spatially correlated errors. Consideration could also be given to whether a poisson regression model (Kotz,Johnson & Read,1987) would be more appropriate.

Despite these limitations however it is notable that some trends have been observed, which are worthy of further exploration. The positive association between eU and incidence rates is consistent with the findings of the case-control analysis, and again suggests that the possible link with either radium, radon or both should be pursued further. The negative association between eTh and some incidence rate estimates emerged as an equally significant trend in this analysis, although not supported by the case-control results. It is notable in this respect that the Th series provides a major contribution to the external gamma dose rate.

4. CONCLUSIONS

The study aims were to produce detailed background radiation maps of the grids, to assess their spatial variability, and to link radiometric data to epidemiological results with a view to making a preliminary assessment of the relationships between leukaemia and environmental radioactivity, and to formulate hypotheses for future studies.

The survey itself has successfully demonstrated that aerial radiometrics can be used to define the environmental radiation background. The aerial survey methodology is not only able to map the distribution of gamma ray emitters and gamma dose rates. By resolving the contributions from U, Th series and K it provides information about the composition of the main sources of terrestrial radio-activity, and by inference about the relative environmental availability of alpha, beta and gamma emitters.

The technique is extremely efficient for providing large area coverage at an economical cost. The sampling densities are some 10^6 and 200-400 times greater than those of ground based national mapping, and therefore are capable of representing the local variations in levels and types of radionuclide. The survey itself is rapid; therefore studies of change can be readily conducted.

The maps produced demonstrate the considerable variations in levels of all radiation variables on a local scale. The mean gamma dose rates observed within these grids are compatible with NRPB estimates, but show a similar degree of local variability (some five- fold) as observed at a national level in the UK (Green et al,1989). Variations in radiation quality within the environment also arise, as a result of the varying relative abundance of the natural series sources. It is clear that any further epidemiological analysis involving environmental radioactivity must take into account spatial variability of the sort observed here.

The radiation maps produced here show clear evidence of the influence of substratum geology, and geomorphological features on the radiation environment. As expected the highest radiation levels are associated with acidic intrusions and triassic marls, whereas the cretaceous rocks showed the lowest levels. Estuarine areas and their surrounding salt marshes were not significantly enhanced with radioactivity. There was no evidence of environmental contamination in the vicinity of the Devonport Naval Dockyard, or near Hinkley Point, although the transient signal due to the authorised discharge of ^{41}Ar from the Magnox power station produced a prominent radiometric feature.

Methodological developments were made to enable the radiometric results to be linked with incidence data for leukaemia. Two distinct approaches were taken; a comparison of the radiation fields associated with cases and controls, and an analysis of the relationship between incidence rate and radiation levels. Incidence data for several leukaemias and related conditions, and associated controls were provided by the Leukaemia Research Fund Clinical Epidemiology Centre at Leeds University, covering the period 1984-1988. Three diagnostic groups were defined comprising lymphoproliferative, myeloproliferative conditions, and acute myeloid leukaemia. Multiple Myeloma was not included in the conditions analysed.

The case-control study did not show significant differences for most radiation variables, at a level limited by the low statistical power of the comparisons based on small numbers of cases. It was also noted that some variables demonstrated deviations from normality which would violate the assumptions of conventional parametric tests. Exceptions to this were, however, observed in grid 3. Here cases could be associated with higher values of the eU variable than controls ($p<0.003$), and higher alpha infinite dose rate values ($p<0.016$). These differences, which should be cautiously interpreted, derive mainly from lymphoproliferative conditions, and were not observed in the other two grids. The observation of the U association is consistent with a potential linkage either to radium, or to radon, in that the alpha dose rate variable is less strongly linked than eU, and the eTh results do not show a significant contrast. Improvement of the statistical power could be achieved to a limited extent by increasing the number of controls. A more effective step would be to increase the number of cases, by (i) increasing the areas surveyed and/or (ii) increasing the time range of the epidemiological data.

Analysis of radiation stratified incidence rates was conducted to investigate more directly the underlying relationship between radiation fields and their postulated effects. This approach overcomes some of the methodological difficulties encountered in the case-control study.

A total of 8 radiation strata was used, of which the central bands contained the majority of the information derived from the limited number of cases. Errors on the incidence rates are largely dominated by the case statistics, which were included in the weighted linear regression models applied to the results. Again the majority of variables and conditions did not show significant and consistent trends. However eU showed positive associations in the majority of condition/grid combinations, of which that in grid 1 group 2 (myeloproliferative disorders) was significant at the 5% level, and data from all grids from groups 2 and 3 were significant at a level between 1 and 2 σ. This lends tentative support to the similar outcome of the case-control comparison, and is again consistent with a radon linkage. Negative associations were observed with the eTh variable, with 5% significance in all groups in grid 2 (albeit from an inadequately small number of cases), and group 1 in all grids combined. The incidence rate approach can be readily extended by combination of results from many grids, and power could thus be improved by both methods (i) and (ii) above.

It has therefore been shown that radiometric data of the sort collected for this study can be linked to epidemiological analyses. A preliminary assessment of the relationships between leukaemia incidence and the natural radiation variables recorded has produced a clear indication of the need for greater statistical power. At this stage however the results appear to lend tentative support for an association between uranium series activity; possibly radon linked, and incidence. It would appear on the available evidence that the associations, if any, between low LET radiation and leukaemia incidence are less pronounced. Negative associations cannot be dismissed at this stage. Having demonstrated that aerial survey results display considerable spatial variability, that they can be effectively linked to epidemiological data, the hypotheses arising from these preliminary observations could be tested in future studies of a larger scale.

The results from this survey have been stored archivally and can be used as a resource for future studies. The epidemiological analyses could be extended to other conditions, particularly multiple myeloma, but also other more common cancers. Extension to cover a longer time-span would be desirable as more epidemiological data would become available.

A higher priority than re-analysis of the existing grids would however be to extend statistical power. Appropriate developments with this in mind would be to select two regions with very different radiation environments (eg of contrasting geological characteristics) for incidence rate analysis, and/or to increase the number of cases by extension of the survey area, coupled to the maximum possible time range for epidemiological analysis. It is also noted that other SURRC aerial radiometric surveys which have been conducted since 1989, covering more than twice the area of this survey, could potentially serve as a resource for similar studies.

In parallel with extension of this, essentially epidemiologically based approach to understanding the influence of environmental radiation on leukaemia incidence, it would be desirable to conduct studies of a more directly aetiological basis. The concept of utilising advanced analytical methods to detect actinides in small samples of biological material has already been advanced, and gains relevance by the suggestion emerging from this study that alpha emitting nuclei may be partially involved, since these depend on ingestion or inhalation for their biological effects. If radon is implicated in epidemiological studies, it would further be extremely desirable to study the distribution of ^{210}Pb, a bone seeking radon daughter with 22 year half life, as an integrating indicator of exposure to this source. The possibility of the radium association would imply ingestion from water or food; in this case evidence of Ra retention in skeletal samples (1600 year half life) should be preserved. It is important to note that whereas the radon links postulated by Henshaw (1990) depend on assumption of an extremely high quality factor for alpha dose, a link with radium has already been demonstrated with ^{224}Ra from thorotrast studies, and related to drinking water in Florida (Lyman et al, 1985). Therefore it appears that radium is capable of irradiating the necessary cells to induce leukaemia. Advances in whole body monitoring methods which could record the low energy photons associated with ^{210}Pb (45 keV) or ^{226}Ra (186 keV), may provide a means of distinguishing between radon and radium hypotheses arising from this study. Further environmental investigations of the areas of grid 3 in particular may be able to establish whether radon or radium enhancements occur at domestic scale. Finally detailed studies of the relationships between spectrometric measurements of environmental and domestic radiation fields are also required to establish the extent to which observed spatial variations in the radiation environment lead to varying radiation exposures to individuals.

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APPENDIX A : RESULTS OF AERIAL GAMMA RAY SURVEY

Calibrated data are arranged in tabular form for all three grids in standard format.

Each individual spectral filename is identified, to enable archival retrieval if needed.

The estimated latitude and longitude of the mid position of each reading is then printed, followed by calculated OS six figure coordinates corresponding to the 1:50000 Landranger series maps.

The altitude column gives the time averaged ground clearance of the aircraft in metres, recorded by radioaltimetry.

Thereafter the calibrated data, which have been corrected for spectral interference and deviations from standard ground clearance are tabulated for the following six variables:

Ch1 : 40 K (Bq/kg)
Ch2 : eU (Bq/kg)
Ch3 : eTh (Bq/kg)
Ch4 : Alpha Dose Rate (mGy/a)
Ch5 :Beta Dose Rate (mGy/a)
Ch6 :Gamma Dose Rate(mGy/a).

Note that the alpha and beta dose rates are calculated infinite matrix dose rates, based on the activity concentrations in channels 1-3 coupled to full series equilibrium assumptions. The beta dose rate attributed to potassium-40 includes a small allowance for 87Rb, based on a fixed K/Rb ratio.

The gamma ray dose rates by contrast were estimated from the spectra recorded, and represent an estimate of the gamma dose rate above ground, excluding cosmic ray contributions. Infinite matrix gamma dose rates are approximately two times larger.

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1A001	51' .5	3'25.17	SS994242	94.	629	43.2	65.3	21.7	2.69	.490
LRF1A001	51' .52	3'24.63	ST002242	109	625	40	66	21.1	2.64	.490
LRF1A002	51' .54	3'24.19	ST007242	88.	528	34.5	68	20.2	2.31	.430
LRF1A002	51' .55	3'23.84	ST011242	92.	578	38	74.9	22.2	2.53	.490
LRF1A003	51' .57	3'23.46	ST015243	84.	565	44.7	74.5	23.7	2.57	.479
LRF1A003	51' .59	3'23.03	ST021243	105	685	26.7	78.5	20.2	2.74	.518
LRF1A004	51' .6	3'22.65	ST025243	91.	633	39.2	73.0	22.2	2.71	.479
LRF1A004	51' .6	3'22.32	ST029243	87.	656	37.5	62.2	19.7	2.67	.490
LRF1A005	51' .59	3'21.92	ST034243	101	656	33.7	68.0	20	2.67	.490
LRF1A005	51' .58	3'21.45	ST039243	100	588	46.4	66.8	22.6	2.60	.479
LRF1A006	51' .58	3'21.04	ST044243	84	664	55.4	81.5	27.2	3.02	.518
LRF1A006	51' .59	3'20.68	ST048243	113	652	49	67.9	23.2	2.81	.509
LRF1A007	51' .61	3'20.32	ST053243	77.	769	51.9	78.8	26.1	3.25	.540
LRF1A007	51' .63	3'19.95	ST057244	94.	744	49.5	70.5	24	3.09	.528
LRF1A008	51' .65	3'19.59	ST061244	104	778	45.4	71	23.2	3.16	.550
LRF1A008	51' .67	3'19.23	ST066244	100	731	48.7	79.4	25.5	3.13	.540
LRF1A009	51' .69	3'18.86	ST070245	95.	483	35.5	45.7	16.2	2.04	.379
LRF1A009	51' .7	3'18.49	ST074245	104	391	23	29.2	10.6	1.53	.270
LRF1A010	51' .7	3' 18.1	ST079245	86.	716	21.7	40.2	12.3	2.49	.388
LRF1A010	51' .7	3'17.71	ST084245	81.	403	34	47.5	16.2	1.84	.319
LRF1A011	51' .7	3'17.28	ST089245	84.	435	31.7	41.5	14.6	1.85	.310
LRF1A011	51' .69	3'16.83	ST094245	98.	495	39	40.2	16.2	2.07	.360
LRF1A012	51' .69	3'16.37	ST099245	105	423	36.2	40	15.5	1.86	.340
LRF1A012	51' .69	3' 15.9	ST105245	88.	670	34.2	39.2	14.8	2.5	.400
LRF1A013	51' .69	3'15.44	ST110245	96	1036	36.4	41.2	15.6	3.53	.518
LRF1A013	51' .68	3'14.99	ST116244	101	1005	35.9	40.4	15.5	3.45	.5
LRF1A014	51' .68	3'14.58	ST121244	91	1074	33.4	47.7	16.2	3.66	.528
LRF1A014	51' .67	3' 14.2	ST125243	95.	898	28.2	48.4	15.1	3.13	.509
LRF1A015	51' .66	3'13.81	ST130243	86.	959	33.5	43.5	15.5	3.30	.490
LRF1A015	51' .65	3' 13.4	ST135243	93.	1150	48.2	50.5	20.1	4.05	.600
LRF1A016	51' .67	3' 13	ST139243	98.	1328	38.5	59.2	19.5	4.5	.648
LRF1A016	51' .73	3' 12.6	ST144245	92	1061	33.2	58.5	18.1	3.70	.569
LRF1A017	51' .77	3'12.16	ST149245	94.	714	42	46.7	18	2.76	.439
LRF1A017	51' .82	3'11.69	ST155246	91.	641	35.2	59.5	18.7	2.56	.449
LRF1A018	51' .86	3'11.24	ST160247	102	664	46.2	50.5	19.6	2.71	.460
LRF1A018	51' .91	3'10.83	ST165248	97.	653	31.2	45.2	15.3	2.47	.418
LRF1A019	51' .93	3'10.38	ST170248	97.	750	39.2	52	18.2	2.88	.5
LRF1A019	51' .93	3' 9.99	ST175248	102	759	47.9	43.2	18.7	2.94	.469
LRF1A020	51' .91	3' 9.41	ST182248	93	815	36.7	48.2	17.1	3	.479
LRF1A020	51' .88	3' 8.92	ST188247	84.	1135	47	63	22.1	4.09	.629
LRF1A021	51' .74	3' 8.62	ST190244	78.	1095	44.5	62	21.2	3.95	.588
LRF1A021	51' .49	3' 8.45	ST193240	85	1195	54.2	64	23.7	4.34	.660
LRF1A022	51' .25	3' 8.01	ST198236	103	1186	33.4	54.2	17.2	4.01	.610
LRF1A022	51' .02	3' 7.26	ST207231	108	1236	44	58	20.5	4.30	.660
LRF1A023	50' 59.9	3' 6.41	ST217229	97.	774	34.4	54.4	17.7	2.90	.490
LRF1A023	50'59.87	3' 5.48	ST228229	94.	1255	49.5	71.5	24.2	4.51	.689
LRF1A024	50'59.98	3' 4.78	ST237230	88.	867	37.2	55.4	18.5	3.20	.5
LRF1A024	51' .22	3' 4.31	ST242234	93.	787	36.2	46.7	16.7	2.91	.469
LRF1A025	51' .49	3' 3.99	ST246239	92.	656	39.9	57.4	19.5	2.67	.439
LRF1A025	51' .76	3' 3.82	ST248244	96.	886	46	54.5	20.2	3.32	.528
LRF1A026	51' .9	3' 3.58	ST251247	98.	960	36.2	49.5	17.2	3.40	.528
LRF1A026	51' .91	3' 3.26	ST255247	93.	1061	47.2	52.9	20.2	3.80	.588
LRF1A027	51' .91	3' 2.93	ST258247	89	1058	40.9	58.7	19.7	3.76	.588
LRF1A027	51' .88	3' 2.59	ST262246	89.	936	46.7	54.7	20.5	3.49	.550
LRF1A028	51' .87	3' 2.21	ST267246	87	1107	41	45.2	17.5	3.80	.588
LRF1A028	51' .86	3' 1.78	ST272246	93.	1067	42.5	48.2	18.2	3.75	.578
LRF1A029	51' .86	3' 1.38	ST277246	85	1155	45.9	55.2	20.2	4.07	.610
LRF1A029	51' .87	3' 1.01	ST281246	100	1103	51.2	50	20.7	3.97	.629
LRF1A030	51' .88	3' .6	ST286246	105	1056	50.9	56.9	21.7	3.88	.620
LRF1A030	51' .9	3' .13	ST292247	92.	1237	42	52.2	19	4.23	.670
LRF1A031	51' .92	2' 59.7	ST297247	94.	1432	49.9	55	21.2	4.88	.720
LRF1A031	51' .95	2'59.29	ST302248	83.	1287	50.2	47.7	20	4.44	.648

Filename	Position	Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1A032	51' .96 2' 58.9	ST306248	80.	1081	42	60.2	20.5	3.85	.560
LRF1A032	51' .97 2'58.53	ST310248	96.	927	48.4	53.2	20.6	3.48	.560
LRF1A033	51' .98 2'58.08	ST316248	96	740	37.7	47	17.1	2.78	.449
LRF1A033	51' .99 2'57.56	ST322248	93.	942	44.2	51.7	19.2	3.46	.550
LRF1A034	51' 1 2' 57.1	ST327249	96.	1029	45.5	52	19.7	3.71	.569
LRF1A034	51' .99 2'56.71	ST332248	95.	788	50	55.5	21.2	3.13	.509
LRF1A035	51' .98 2'56.27	ST337248	103	752	39.2	49.2	17.7	2.84	.460
LRF1A035	51' .97 2'55.78	ST343248	102	814	27.7	50.5	15.5	2.91	.460
LRF1A036	51' .96 2'55.32	ST348247	98	695	26.7	40.5	13.3	2.5	.388
LRF1A036	51' .97 2'54.89	ST354247	101	893	29.2	55	16.6	3.17	.479
LRF1A037	51' .96 2'54.42	ST359247	106	955	41.7	60.5	20.5	3.51	.550
LRF1A037	51' .93 2'53.93	ST365246	106	999	54.5	73.4	25.7	3.89	.660
LRF1A038	51' .91 2'53.49	ST370246	58	815	54.9	56.7	22.7	3.25	.518
LRF1A038	51' .9 2' 53.1	ST375246	61	719	53.2	57	22.2	2.99	.460
LRF1A039	51' .93 2'52.71	ST379246	86.	685	54	47	20.7	2.82	.469
LRF1A039	51' 1.02 2' 52.3	ST384248	89	606	56	47.5	21.2	2.65	.449
LRF1A040	51' 1.12 2'51.82	ST390250	103	502	43.9	39.4	17.1	2.17	.388
LRF1A040	51' 1.22 2'51.28	ST396252	101	644	43.2	46.7	18.2	2.58	.430
LRF1A041	51' 1.26 2' 50.8	ST402252	95.	563	52	43.5	19.7	2.46	.439
LRF1A041	51' 1.22 2'50.39	ST407252	100	525	42	43	17.2	2.23	.379
LRF1A042	51' 1.2 2'49.97	ST412251	93.	679	49.5	57.5	21.6	2.82	.479
LRF1A042	51' 1.18 2'49.53	ST417251	97	587	52.7	59.9	22.7	2.65	.449
LRF1A043	51' 1.18 2'49.09	ST422251	88.	508	42.5	51	18.7	2.25	.388
LRF1A043	51' 1.18 2'48.65	ST427251	88.	451	39	37	15.6	1.95	.340
LRF1A044	51' 1.17 2'48.23	ST432251	86.	321	29.7	47.4	15.3	1.54	.310
LRF1A044	51' 1.16 2'47.82	ST437251	88.	378	29.2	50	15.6	1.73	.310
LRF1A045	51' 1.15 2'47.32	ST443250	93	393	26.7	58.5	16.7	1.78	.360
LRF1A045	51' 1.14 2'46.74	ST450250	89.	429	30.7	58.2	17.5	1.94	.370
LRF1A046	51' 1.11 2'46.26	ST456250	102	397	50	52.9	20.7	2.03	.400
LRF1A046	51' 1.05 2'45.87	ST460248	100	474	39.9	65.5	21	2.23	.400
LRF1A047	51' 1.02 2'45.42	ST466247	93.	571	41.2	56.2	19.6	2.44	.418
LRF1A047	51' .99 2'44.91	ST472246	105	547	44.9	59.2	20.7	2.44	.430
LRF1A048	51' .99 2'44.45	ST477246	100	536	39.4	57	19.2	2.31	.418
LRF1A048	51' 1 2'44.05	ST482247	100	552	49.9	58.5	21.7	2.5	.460
LRF1A049	51' 1.03 2'43.64	ST487247	98.	493	51.2	63	23.1	2.39	.449
LRF1A049	51' 1.06 2'43.21	ST492248	103	476	39.2	69.5	21.5	2.25	.418
LRF1A050	51' 1.06 2'42.78	ST497248	93.	453	34.9	67.5	20.2	2.10	.430
LRF1A050	51' 1.03 2'42.37	ST502247	107	493	52.5	61.5	23.1	2.40	.430
LRF1A051	51' 1.04 2'41.87	ST508247	109	432	49.9	56.2	21.5	2.16	.439
LRF1A051	51' 1.11 2'41.29	ST515249	87.	556	57	67.5	25.2	2.67	.479
LRF1A052	51' 1.11 2' 41.1	ST517249	102	628	62.7	77.9	28.2	3	.560
LRF1A052	51' 1.05 2'41.29	ST515248	98.	512	40.5	47.7	17.7	2.21	.388
LRF1A053	51' 1.01 2'41.39	ST513247	104	417	54.9	52.7	22	2.16	.430
LRF1A053	51' 1.01 2' 41.4	ST513247	99.	509	59.7	59.5	24.2	2.50	.460
LRF1A054	51' 1.01 2'41.18	ST516247	106	501	39	53.2	18.5	2.20	.418
LRF1A054	51' 1.01 2'40.72	ST521247	102	440	43.2	42	17.5	2	.360
LRF1A055	51' 1.01 2'45.25	ST468247	95.	515	55	55.5	22.6	2.45	.439
LRF1A055	51' 1.01 2'45.75	ST462247	91.	511	48.2	61.9	22.2	2.40	.430
LRF1A056	51' 1.01 2' 46	ST459248	100	571	43.7	64	21.5	2.50	.439
LRF1A056	51' 1.01 2' 46	ST459248	102	578	31.1	51.7	16.2	2.29	.400
LRF1A057	51' 1.01 2'36.75	ST568247	112	388	40.9	43	17.1	1.84	.360
LRF1A057	51' 1.01 2'36.25	ST574246	98.	543	39.7	46.2	17.2	2.26	.400
LRF1A058	51' 1.02 2' 36	ST577246	95.	508	36.2	56.2	18.2	2.21	.388
LRF1A058	51' 1.02 2' 36	ST577246	94.	503	42.2	62.4	20.7	2.29	.418
LRF1A059	51' 1.02 2'35.75	ST580246	93.	503	35.4	45.9	16.2	2.09	.360
LRF1A059	51' 1.02 2'35.25	ST586246	95.	431	37.7	43.7	16.5	1.91	.349
LRF1A060	51' 1.04 2'34.93	ST590246	93.	412	47	57.5	21.1	2.06	.409
LRF1A060	51' 1.08 2'34.78	ST592247	91.	432	48.2	67.5	23.2	2.22	.430
LRF1B001	51' .24 3'23.33	ST017237	97.	601	44.7	59.2	20.7	2.57	.449
LRF1B001	51' .31 3'24.78	ST000239	90.	512	37.9	66.0	20.6	2.29	.418
LRF1B002	51' .2 3'23.43	ST016236	95.	664	54.7	63.5	23.7	2.91	.5
LRF1B002	51' .2 3'22.88	ST022236	100	718	50.2	77	25.2	3.07	.518

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1B003	51' .28	3'23.03	ST021237	95.	618	54.7	69.4	25	2.80	.509
LRF1B003	51' .23	3'23.48	ST015236	86.	642	33	81.5	22.2	2.72	.5
LRF1B004	51' .34	3'22.13	ST031238	93.	829	54.7	76.0	26.2	3.45	.569
LRF1B004	51' .31	3'22.58	ST026238	82.	723	50	82.5	26.2	3.14	.540
LRF1B005	51' .35	3'21.23	ST042239	98.	673	48.7	81.5	25.7	2.98	.518
LRF1B005	51' .35	3'21.68	ST037239	94.	632	53.9	82.5	27.2	2.94	.518
LRF1B006	51' .31	3'20.33	ST053238	96.	610	45.5	78.5	24.6	2.75	.5
LRF1B006	51' .34	3'20.78	ST047238	95.	585	50	82.5	26.2	2.75	.509
LRF1B007	51' .33	3' 19.5	ST062238	101	702	54.5	71.5	25.2	3.05	.518
LRF1B007	51' .31	3' 19.9	ST058238	102	651	51.4	64.5	23.2	2.82	.5
LRF1B008	51' .27	3'18.63	ST073237	91	657	46.9	71	23.5	2.83	.490
LRF1B008	51' .32	3'19.07	ST067238	93.	736	44.2	83.5	25.2	3.10	.540
LRF1B009	51' .33	3' 17.8	ST082238	100	564	35.2	43.7	16	2.25	.388
LRF1B009	51' .28	3' 18.2	ST078237	98.	415	35.2	48.7	16.7	1.87	.349
LRF1B010	51' .28	3'16.93	ST093237	93.	410	31.2	48.2	15.8	1.83	.340
LRF1B010	51' .33	3'17.38	ST087238	93.	576	30.1	38.7	13.8	2.20	.379
LRF1B011	51' .18	3'16.03	ST103235	107	668	33	41.5	15	2.5	.400
LRF1B011	51' .23	3'16.48	ST098236	112	500	42.7	51.7	19.1	2.23	.388
LRF1B012	51' .19	3' 15.2	ST113236	103	969	53.4	44.5	20.2	3.57	.540
LRF1B012	51' .16	3' 15.6	ST109235	108	998	42.7	43.5	17.6	3.51	.518
LRF1B013	51' .31	3' 14.7	ST119237	89.	1109	48.9	55.7	21.2	4	.578
LRF1B013	51' .24	3' 14.9	ST117236	95.	1143	47.2	45	18.7	3.99	.578
LRF1B014	51' .35	3'13.78	ST130238	97	1200	59	56.4	23.6	4.36	.648
LRF1B014	51' .35	3'14.33	ST124238	99.	1246	51.2	47.7	20.2	4.34	.610
LRF1B015	51' .35	3'12.98	ST140238	99.	1137	52.7	62.7	23.2	4.17	.629
LRF1B015	51' .35	3'13.33	ST135238	108	1201	54	62.2	23.5	4.34	.670
LRF1B016	51' .35	3'12.05	ST151238	99.	849	50.4	57	21.7	3.29	.509
LRF1B016	51' .35	3'12.55	ST145238	87	1180	68.5	65.3	27.2	4.48	.648
LRF1B017	51' .35	3'10.83	ST165238	92.	790	49.7	52.7	20.7	3.09	.518
LRF1B017	51' .35	3'11.48	ST157238	91.	876	40.5	54.4	19.1	3.25	.490
LRF1B018	51' .35	3'10.28	ST171238	100	1240	68.8	66.8	27.7	4.67	.689
LRF1B018	51' .35	3'10.43	ST170238	98.	851	47.5	53.5	20.5	3.25	.528
LRF1B019	51' .31	3' 9.3	ST183237	106	1349	70	64.0	27.5	4.96	.75
LRF1B019	51' .34	3' 9.99	ST185237	107	1205	53.2	67.5	24.2	4.38	.670
LRF1B020	51' .11	3' 9.50	ST186236	86.	1249	64.5	74.3	28.1	4.69	.699
LRF1B020	51' .24	3' 8.95	ST187236	91.	1324	53.2	60.2	23	4.67	.680
LRF1B021	50'59.04	3' 8.95	ST187236	98.	1115	59.7	62.5	24.7	4.19	.648
LRF1B021	50'59.71	3' 8.5	ST195235	84.	1154	62	63.2	25.5	4.32	.648
LRF1B022	50'59.38	3' 7.45	ST204220	105	762	45.5	46	18.7	2.94	.469
LRF1B022	50'58.93	3' 7.95	ST198211	103	1203	60.2	61.4	24.7	4.42	.660
LRF1B023	50'59.75	3' 5.78	ST224226	95.	1067	55	79.4	26.7	4.11	.648
LRF1B023	50'59.65	3' 6.73	ST212225	101	1116	51.9	74.8	25.2	4.19	.648
LRF1B024	51' .02	3' 4.7	ST237230	96.	711	47.4	42.7	18.5	2.78	.439
LRF1B024	50'59.88	3' 5.1	ST233228	91	900	57.5	56.7	23.2	3.52	.550
LRF1B025	51' .29	3' 4.27	ST243235	92.	939	55	67.5	24.7	3.69	.578
LRF1B025	51' .16	3' 4.43	ST241233	91	816	59.9	54.4	23.2	3.30	.518
LRF1B026	51' .35	3' 3.98	ST246237	92.	949	68.4	79.5	29.7	3.96	.629
LRF1B026	51' .35	3' 4.13	ST244237	92.	921	58.7	56.9	23.6	3.59	.540
LRF1B027	51' .35	3' 2.63	ST262237	99	1125	71.9	59	27	4.32	.648
LRF1B027	51' .35	3' 3.48	ST252237	102	957	52.7	63.5	23.5	3.68	.588
LRF1B028	51' .35	3' 1.38	ST277237	103	1021	54.7	68.5	24.7	3.92	.638
LRF1B028	51' .35	3' 1.93	ST270237	101	1022	61.2	59.9	24.7	3.93	.600
LRF1B029	51' .35	3' .35	ST289237	94.	970	45.5	56.5	20.6	3.56	.540
LRF1B029	51' .35	3' .85	ST283237	89.	1240	58.4	77.5	27.2	4.61	.680
LRF1B030	51' .35	2'58.68	ST309237	99.	848	54	59.2	23	3.35	.560
LRF1B030	51' .35	2'59.63	ST297237	101	631	42.7	48.7	18.5	2.55	.439
LRF1B031	51' .35	2'58.05	ST316237	99.	972	45.7	70.0	23.1	3.69	.578
LRF1B031	51' .35	2'58.15	ST315237	92.	888	55	59.5	23.2	3.49	.550
LRF1B032	51' .35	2' 57.7	ST320237	118	791	48	63.7	22.5	3.17	.560
LRF1B032	51' .35	2' 57.9	ST318237	99.	845	69	73.8	29	3.64	.620
LRF1B033	51' .35	2'57.45	ST323237	88	662	63.2	48.7	23.2	2.89	.469
LRF1B033	51' .35	2'57.55	ST322237	79.	641	54.5	46.4	20.7	2.72	.439

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1B034	51' .35	2'56.65	ST333237	92.	714	61.7	73.5	27.2	3.20	.540
LRF1B034	51' .35	2'57.15	ST327237	87.	709	61	57.9	24.2	3.05	.518
LRF1B035	51' .35	2'55.95	ST341237	96.	427	42.4	33.5	15.6	1.88	.330
LRF1B035	51' .35	2'56.25	ST337237	99	635	65.9	45.4	23.2	2.81	.460
LRF1B036	51' .35	2'55.13	ST351236	92.	659	66.4	58.5	25.7	2.99	.528
LRF1B036	51' .35	2'55.58	ST345236	92.	597	61.7	52.7	23.5	2.73	.469
LRF1B037	51' .35	2'54.23	ST361236	99.	743	60.5	67.5	26	3.22	.509
LRF1B037	51' .35	2'54.68	ST356236	102	616	53.2	44.5	20.2	2.60	.449
LRF1B038	51' .35	2'53.32	ST372236	99.	722	50.4	60.7	22.5	2.99	.490
LRF1B038	51' .35	2'53.78	ST367236	97.	733	55	52	21.7	3	.490
LRF1B039	51' .35	2' 52.5	ST382236	106	565	46.9	60.5	21.6	2.50	.460
LRF1B039	51' .35	2' 52.9	ST377236	101	584	66.5	62.2	26.2	2.80	.5
LRF1B040	51' .35	2'51.63	ST392236	90.	520	58.2	60.5	24.2	2.51	.430
LRF1B040	51' .35	2'52.08	ST387236	86	649	64.8	58.7	25.2	2.95	.490
LRF1B041	51' .35	2' 50.8	ST402236	85.	520	53	64.0	23.7	2.5	.439
LRF1B041	51' .35	2' 51.2	ST397236	78.	653	62.5	53.2	23.7	2.90	.490
LRF1B042	51' .35	2' 50	ST411236	102	417	50.5	67	23.7	2.21	.430
LRF1B042	51' .35	2' 50.4	ST407236	98.	460	37	52.2	17.7	2.04	.370
LRF1B043	51' .35	2'49.13	ST422236	99.	477	53	47.7	20.7	2.25	.388
LRF1B043	51' .35	2'49.58	ST416236	95.	441	54	56.2	22.5	2.24	.409
LRF1B044	51' .35	2'48.23	ST432236	88.	444	42.7	59	20.2	2.13	.388
LRF1B044	51' .35	2'48.68	ST427236	94.	468	46.7	54.2	20.2	2.21	.388
LRF1B045	51' .35	2'47.32	ST443236	96.	426	44.2	53.2	19.7	2.04	.379
LRF1B045	51' .35	2'47.78	ST438236	95.	420	39	71.4	21.7	2.09	.400
LRF1B046	51' .35	2'46.43	ST454236	91.	464	36.5	52.7	17.7	2.05	.388
LRF1B046	51' .35	2'46.88	ST448236	94	464	41.2	56.5	19.6	2.15	.388
LRF1B047	51' .35	2'45.53	ST464235	97.	406	41	60	20.2	2	.400
LRF1B047	51' .35	2'45.98	ST459236	93.	468	48	48.2	19.6	2.18	.360
LRF1B048	51' .35	2'44.78	ST473235	95.	442	52.7	70.8	24.7	2.31	.439
LRF1B048	51' .35	2'45.13	ST469235	95.	382	48.2	52	20.2	1.98	.360
LRF1B049	51' .35	2'43.78	ST485235	91.	506	57.5	53.4	22.7	2.44	.439
LRF1B049	51' .35	2'44.32	ST479235	87.	487	65.8	61.2	26	2.52	.449
LRF1B050	51' .35	2'42.82	ST496235	99.	494	51.7	60.7	22.7	2.39	.430
LRF1B050	51' .35	2'43.28	ST491235	97.	453	48.7	60.5	22	2.24	.430
LRF1B051	51' .35	2' 42	ST506235	94.	467	56.5	60	23.7	2.35	.439
LRF1B051	51' .35	2' 42.4	ST501235	90.	437	45	67.5	22.5	2.20	.430
LRF1B052	51' .35	2'41.13	ST516235	92.	457	61.7	52.7	23.5	2.33	.418
LRF1B052	51' .35	2'41.58	ST511235	96	467	51	53.9	21.2	2.25	.400
LRF1B053	51' .35	2' 40.3	ST526235	99	612	79.9	54.7	28	3	.509
LRF1B053	51' .35	2' 40.7	ST521235	90.	582	57.2	51	22.2	2.60	.449
LRF1B054	51' .35	2'39.43	ST537235	94.	458	58.7	32.2	19.1	2.17	.360
LRF1B054	51' .35	2'39.88	ST531235	97.	377	59.2	47	22	2.04	.400
LRF1B055	51' .35	2' 38.6	ST546235	88.	304	48	40.5	18.2	1.66	.319
LRF1B055	51' .35	2' 39	ST542235	90.	372	45.2	27.7	15.3	1.75	.310
LRF1B056	51' .35	2'37.72	ST557235	97.	463	59.5	52.9	23.1	2.32	.418
LRF1B056	51' .35	2'38.18	ST551235	85.	406	51.4	44.5	19.7	2.01	.360
LRF1B057	51' .35	2'36.97	ST566235	91.	581	53	65.3	23.7	2.67	.479
LRF1B057	51' .35	2'37.33	ST561235	92.	529	61	73.5	27.2	2.68	.460
LRF1B058	51' .35	2'36.72	ST569235	90.	543	60.2	57.9	24.1	2.58	.460
LRF1B058	51' .35	2'36.78	ST568235	96	538	50	62.5	22.7	2.5	.469
LRF1B059	51' .31	2' 35.5	ST583233	91	566	54.9	66.0	24.5	2.66	.469
LRF1B059	51' .34	2' 36.3	ST574233	91.	592	54.9	61.7	23.6	2.70	.469
LRF1B060	51' .3	2'35.63	ST581233	94.	473	51.2	59.7	22.5	2.29	.439
LRF1B060	51' .3	2'35.27	ST586233	97	513	41	58	19.7	2.27	.400
LRF1C001	50'59.69	3' 25.5	SS989227	105	680	32.9	67.5	19.7	2.72	.479
LRF1C001	50'59.67	3'25.01	SS995227	109	581	35.7	63.5	19.6	2.45	.460
LRF1C002	50'59.67	3'24.55	ST002226	102	573	42.2	69	22.1	2.53	.469
LRF1C002	50'59.69	3'24.14	ST006226	95	578	38.2	74	22.1	2.53	.469
LRF1C003	50'59.68	3'23.74	ST011226	91.	601	34	66.5	19.7	2.5	.439
LRF1C003	50'59.63	3'23.35	ST016225	95.	600	37.7	70.5	21.2	2.56	.460
LRF1C004	50' 59.6	3'22.95	ST021225	112	521	31.2	53	16.7	2.16	.400
LRF1C004	50' 59.6	3'22.52	ST026225	100	539	43.4	57.2	20.2	2.39	.430

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1C005	50'59.61	3' 22.1	ST031225	95.	562	44	50.7	19.2	2.41	.418
LRF1C005	50'59.62	3' 21.7	ST035225	89.	583	32	66.0	19.2	2.43	.439
LRF1C006	50'59.63	3'21.32	ST040225	95.	665	36.9	69	20.7	2.74	.490
LRF1C006	50'59.64	3'20.95	ST044225	89.	641	43.9	61.5	21.1	2.70	.479
LRF1C007	50'59.64	3'20.54	ST049225	101	504	43.2	59.9	20.7	2.29	.449
LRF1C007	50'59.64	3'20.08	ST054225	97	617	29	67.5	18.7	2.5	.460
LRF1C008	50'59.64	3'19.62	ST060225	111	704	29.7	59	17.5	2.69	.460
LRF1C008	50'59.65	3'19.16	ST065226	102	784	37.9	62.4	19.7	3.00	.490
LRF1C009	50'59.64	3'18.72	ST071225	95.	575	40.4	62.5	20.5	2.49	.439
LRF1C009	50'59.61	3'18.29	ST076225	115	666	35.5	49.7	17.1	2.57	.460
LRF1C010	50'59.61	3'17.85	ST081225	85.	472	29.6	39.2	13.8	1.90	.330
LRF1C010	50'59.62	3'17.41	ST086225	98.	378	25.2	38.2	12.6	1.60	.280
LRF1C011	50'59.62	3'16.97	ST091225	101	416	28.6	29.7	11.8	1.66	.289
LRF1C011	50' 59.6	3'16.53	ST096225	76.	612	26.6	44	14	2.27	.370
LRF1C012	50'59.59	3'16.09	ST102225	84.	493	20.1	40	11.8	1.87	.330
LRF1C012	50' 59.6	3'15.66	ST107225	96	408	28.7	35.9	13.1	1.71	.300
LRF1C013	50'59.62	3'15.19	ST112225	98.	826	33.9	41.2	15.1	2.94	.460
LRF1C013	50'59.65	3'14.69	ST118225	103	1099	19.6	39.9	11.6	3.5	.509
LRF1C014	50' 59.7	3'14.23	ST124226	105	1117	39.7	37.4	15.8	3.76	.550
LRF1C014	50'59.76	3' 13.8	ST217227	92.	1138	31.7	40	14.5	3.75	.540
LRF1C015	50'59.82	3'13.38	ST135228	84.	1032	36	46.9	16.7	3.55	.509
LRF1C015	50'59.87	3'12.99	ST139229	93.	1317	38.9	44.5	16.7	4.36	.620
LRF1C016	50'59.89	3'12.46	ST146229	94.	2171	40.2	57.5	19.6	4.40	.680
LRF1C016	50' 59.9	3'11.81	ST153229	99.	974	31.7	53.7	17	3.41	.560
LRF1C017	50' 59.9	3' 11.3	ST159229	91.	893	36.5	58	18.7	3.26	.528
LRF1C017	50'59.89	3'10.93	ST164229	91.	878	50.7	56	21.7	3.39	.528
LRF1C018	50'59.89	3'10.57	ST168229	88.	741	27.7	43	14.1	2.65	.430
LRF1C018	50'59.89	3' 10.2	ST172229	97.	817	36.5	54.5	18.2	3.03	.490
LRF1C019	50'59.88	3' 9.82	ST177229	90	922	38.5	46.4	17.2	3.28	.518
LRF1C019	50'59.85	3' 9.43	ST182228	89.	1248	44	69.5	22.7	4.42	.689
LRF1C020	50'59.84	3' 9.05	ST186228	81.	1481	53.7	69	24.7	5.15	.759
LRF1C020	50'59.84	3' 8.7	ST189228	98.	1360	54.2	70.8	25.2	4.84	.730
LRF1C021	50'59.85	3' 8.33	ST194228	86	1354	50.4	58.7	22.1	4.69	.680
LRF1C021	50'59.86	3' 7.96	ST199229	102	1086	46.5	57.5	21	3.92	.620
LRF1C022	50'59.87	3' 7.59	ST203229	84.	1369	45	68.8	22.7	4.75	.689
LRF1C022	50'59.88	3' 7.23	ST208229	99.	1135	46	47.7	19.1	3.98	.588
LRF1C023	50'59.88	3' 6.84	ST212229	99.	713	29.6	40.7	14.1	2.56	.439
LRF1C023	50'59.87	3' 6.43	ST217229	87.	1099	47.4	64.5	22.5	4.01	.610
LRF1C024	50'59.86	3' 6.02	ST222229	87.	1314	40.7	68.0	21.6	4.55	.670
LRF1C024	50'59.85	3' 5.61	ST226228	89.	1143	39.9	72.9	22.2	4.09	.629
LRF1C025	50'59.84	3' 5.18	ST231227	95.	1018	24.7	53.9	15.3	3.45	.540
LRF1C025	50'59.83	3' 4.72	ST236227	92	763	26.7	53.9	15.8	2.76	.439
LRF1C026	50'59.84	3' 4.29	ST241227	97.	848	30.2	52.2	16.2	3.02	.490
LRF1C026	50'59.85	3' 3.9	ST246227	93.	859	42	65.0	21.2	3.28	.560
LRF1C027	50'59.86	3' 3.46	ST252228	103	978	39.5	59.9	19.7	3.54	.578
LRF1C027	50'59.87	3' 2.97	ST258228	107	950	44.2	56.7	20.2	3.5	.560
LRF1C028	50'59.87	3' 2.55	ST263228	75.	776	44	51.7	19.2	3	.479
LRF1C028	50'59.86	3' 2.18	ST267228	82.	783	50	46.9	19.7	3.04	.469
LRF1C029	50'59.84	3' 1.78	ST271227	94.	799	52.5	43.7	19.7	3.09	.509
LRF1C029	50'59.82	3' 1.35	ST276227	108	839	39.7	58.5	19.6	3.17	.509
LRF1C030	50' 59.8	3' .93	ST281226	103	775	42.2	48.9	18.5	2.96	.469
LRF1C030	50'59.77	3' .5	ST286226	109	913	39.2	54.7	18.7	3.32	.560
LRF1C031	50'59.74	3' .05	ST292225	99.	763	40.7	46	17.6	2.89	.479
LRF1C031	50'59.71	2'59.57	ST297225	99.	782	50.4	52.5	21	3.08	.518
LRF1C032	50'59.71	2'59.12	ST303225	98.	937	39.2	66.4	21	3.49	.569
LRF1C032	50'59.75	2'58.69	ST308225	93.	934	30.1	58.7	17.5	3.30	.550
LRF1C033	50'59.79	2'58.26	ST313226	94.	553	36.2	42	15.8	2.24	.400
LRF1C033	50'59.82	2'57.81	ST318227	90.	504	48.2	42	18.5	2.24	.388
LRF1C034	50'59.86	2'57.35	ST324228	99.	606	41.2	49	18.2	2.49	.439
LRF1C034	50'59.89	2'56.86	ST330228	89.	559	54.7	45.2	20.6	2.49	.430
LRF1C035	50'59.91	2'56.35	ST336228	94.	731	41.5	47.2	18	2.80	.490
LRF1C035	50'59.94	2'55.82	ST343229	103	753	43.7	56.5	20.2	2.97	.5

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1C036	50'59.81	2'55.29	ST348226	99.	648	45	43	18	2.58	.418
LRF1C036	50'59.53	2'54.76	ST354220	102	565	53	39.5	19.2	2.45	.430
LRF1C037	50'59.54	2'54.27	ST360221	99.	671	74.5	45.2	25.1	3.01	.509
LRF1C037	50'59.85	2'53.84	ST365226	90.	676	37.9	58	19.1	2.70	.469
LRF1C038	51' 0	2'53.37	ST372229	95	579	37.7	57.7	19	2.43	.449
LRF1C038	51' 0	2'52.86	ST378229	92.	490	36.7	57.2	18.7	2.17	.400
LRF1C039	50'59.99	2'52.41	ST383229	88	543	41	62.5	20.7	2.41	.439
LRF1C039	50'59.97	2' 52	ST388229	82.	616	38	61.4	19.7	2.54	.439
LRF1C040	50'59.96	2'51.61	ST392228	93.	615	25.2	60.5	16.7	2.40	.430
LRF1C040	50'59.95	2'51.26	ST397228	101	515	45.9	58.7	21.1	2.34	.430
LRF1C041	50'59.94	2'50.89	ST401228	101	485	35.4	59.4	18.7	2.16	.400
LRF1C041	50'59.93	2' 50.5	ST406228	90.	480	30.7	44.2	15	1.98	.360
LRF1C042	50'59.95	2'50.08	ST410228	102	478	36.7	49.2	17.2	2.07	.388
LRF1C042	50'59.98	2'49.61	ST416229	105	477	46.7	49.7	19.6	2.20	.409
LRF1C043	51' .22	2'49.19	ST421233	103	417	22	61.4	16.1	1.83	.349
LRF1C043	51' .67	2'48.84	ST425241	101	437	29.2	46.7	15.1	1.87	.330
LRF1C044	51' .69	2'48.48	ST429242	105	454	31.6	59.2	17.7	2.01	.379
LRF1C044	51' .27	2'48.12	ST434234	106	405	28.6	65.4	18.2	1.88	.370
LRF1C045	51' .05	2'47.76	ST438230	100	427	26.7	60.9	17.2	1.89	.370
LRF1C045	51' .03	2'47.39	ST442230	85.	399	29.1	66.5	18.7	1.88	.370
LRF1C046	51' .01	2'47.03	ST447229	88.	474	33.2	65.5	19.2	2.15	.379
LRF1C046	50'59.99	2'46.67	ST451229	75.	542	39.4	62.9	20.2	2.39	.418
LRF1C047	50'59.97	2'46.29	ST455229	93	526	34.9	55.2	17.7	2.24	.400
LRF1C047	50'59.95	2'45.88	ST460227	87.	481	43.7	47.5	18.5	2.16	.379
LRF1C048	50'59.94	2'45.51	ST465227	96.	555	33.7	51.7	17	2.26	.388
LRF1C048	50'59.93	2'45.17	ST469227	84.	559	33.5	60.7	18.6	2.33	.418
LRF1C049	50'59.91	2'44.79	ST472226	101	604	38.5	54.5	18.7	2.49	.439
LRF1C049	50'59.88	2'44.37	ST477226	104	475	31.5	71	20.1	2.17	.409
LRF1C050	50'59.87	2'43.93	ST482226	91.	433	27.2	55	16.2	1.87	.349
LRF1C050	50'59.89	2'43.48	ST488226	86.	678	38	70	21.2	2.77	.490
LRF1C051	50'59.91	2'43.05	ST493226	82.	622	43	79.8	24.2	2.75	.509
LRF1C051	50'59.92	2'42.64	ST499227	87.	431	35.5	74.4	21.6	2.10	.400
LRF1C052	50'59.93	2'42.22	ST503227	94.	526	32.7	64.5	19.2	2.26	.409
LRF1C052	50'59.94	2'41.79	ST509227	97.	373	41.9	60	20.2	1.91	.379
LRF1C053	50'59.96	2'41.37	ST514227	98.	447	31.7	41.7	14.8	1.87	.340
LRF1C053	50'59.97	2'40.94	ST519228	96.	370	27.6	32.9	12.1	1.57	.289
LRF1C054	50'59.97	2' 40.5	ST524228	100	487	24.2	46.7	14	1.94	.330
LRF1C054	50'59.98	2'40.06	ST529228	88.	523	51.4	48.2	20.2	2.35	.418
LRF1C055	50'59.99	2'39.62	ST534228	103	407	33.4	44.5	15.6	1.82	.340
LRF1C055	50' 60	2'39.18	ST539228	99.	393	32.5	46.4	15.8	1.76	.330
LRF1C056	51' 0	2'38.76	ST544228	93.	405	29.6	44.7	14.8	1.75	.330
LRF1C056	51' .01	2'38.36	ST549228	93	464	23	51.2	14.5	1.88	.360
LRF1C057	51' .01	2'37.93	ST554228	100	406	25	50.9	14.8	1.75	.330
LRF1C057	51' .01	2'37.47	ST560228	96.	468	28.7	49.7	15.6	1.97	.349
LRF1C058	51' .01	2'37.01	ST565228	97.	497	41	45.2	17.5	2.16	.379
LRF1C058	51' .02	2'36.56	ST570228	99.	422	37.2	52.5	18	1.96	.360
LRF1C059	51' .03	2'36.11	ST576228	94.	548	31.5	71.5	20.1	2.35	.418
LRF1C059	51' .04	2'35.66	ST581228	94.	525	36.7	55.2	18.2	2.25	.400
LRF1C060	51' .05	2'35.22	ST586228	92	518	38	52.7	18.2	2.23	.388
LRF1C060	51' .04	2'34.77	ST592228	103	402	27.1	42.2	13.8	1.72	.330
LRF1D001	50' 59.2	3'24.23	ST005218	88.	489	47.7	51	20.1	2.25	.400
LRF1D001	50' 59.2	3'24.68	ST000131	94	579	45.5	60	21.2	2.52	.430
LRF1D002	50' 59.2	3' 23.4	ST015218	89.	357	40.5	42.7	16.7	1.75	.340
LRF1D002	50' 59.2	3' 23.8	ST010218	102	384	47.4	52.9	20.2	1.98	.379
LRF1D003	50' 59.2	3' 22.6	ST025218	105	327	38.9	41.2	16.2	1.62	.319
LRF1D003	50' 59.2	3' 23	ST020218	109	488	51.2	48.7	20.5	2.26	.430
LRF1D004	50' 59.2	3'21.73	ST035218	103	527	32.5	45.5	15.6	2.14	.370
LRF1D004	50' 59.2	3'22.18	ST030218	84	370	34.2	43.2	15.6	1.72	.319
LRF1D005	50' 59.2	3'20.83	ST046218	99	612	39	52.2	18.2	2.5	.418
LRF1D005	50' 59.2	3'21.28	ST040218	110	530	33.2	39.4	14.6	2.10	.360
LRF1D006	50' 59.2	3' 20	ST055218	95.	760	36.9	58.7	19	2.92	.469
LRF1D006	50' 59.2	3' 20.4	ST051218	131	738	41.9	62	20.7	2.95	.5

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1D007	50' 59.2	3'19.05	ST067218	96.	537	35.5	45	16.2	2.20	.388
LRF1D007	50' 59.2	3'19.55	ST061218	92.	672	49.4	69	23.7	2.90	.5
LRF1D008	50' 59.2	3'18.28	ST076218	89	522	22.2	42.9	12.8	1.99	.319
LRF1D008	50' 59.2	3'18.63	ST072218	118	492	34.4	41.2	15.3	2.02	.349
LRF1D009	50' 59.2	3'17.35	ST087218	95.	530	24.2	42.7	13.1	2.01	.330
LRF1D009	50' 59.2	3'17.85	ST081218	100	569	26.2	36.2	12.6	2.10	.330
LRF1D010	50' 59.2	3' 16.5	ST097218	75.	393	40	42.2	16.7	1.84	.300
LRF1D010	50' 59.2	3' 16.9	ST092218	92.	635	31.7	50.5	16.2	2.46	.400
LRF1D011	50' 59.2	3'15.85	ST105218	91.	787	35.2	38.7	15	2.82	.418
LRF1D011	50' 59.2	3'16.15	ST101218	92.	673	34.5	41	15.3	2.51	.388
LRF1D012	50' 59.2	3'15.18	ST112218	102	483	37.4	43	16.2	2.04	.360
LRF1D012	50' 59.2	3'15.53	ST108218	90.	941	43.7	43.2	17.7	3.39	.490
LRF1D013	50' 59.2	3'14.33	ST123217	99.	1049	39	42.7	16.6	3.63	.528
LRF1D013	50' 59.2	3'14.78	ST117217	94.	937	34.9	42.5	15.6	3.25	.469
LRF1D014	50' 59.2	3'13.43	ST133217	103	1220	38	57.7	19.1	4.19	.629
LRF1D014	50' 59.2	3'13.88	ST128217	93	1407	52.4	52.4	21.2	4.82	.680
LRF1D015	50' 59.2	3'12.53	ST144217	93.	976	41.5	50.5	18.6	3.5	.518
LRF1D015	50' 59.2	3'12.98	ST139217	96.	1173	48.7	63.5	22.6	4.21	.620
LRF1D016	50' 59.2	3' 11.7	ST154217	118	1114	40.7	53.5	19	3.90	.620
LRF1D016	50' 59.2	3' 12.1	ST149217	113	1181	49	61.5	22.2	4.23	.648
LRF1D017	50' 59.2	3' 10.9	ST163217	104	819	35.5	48.2	16.7	3	.469
LRF1D017	50' 59.2	3' 11.3	ST158217	104	793	35.5	43	15.8	2.89	.460
LRF1D018	50' 59.2	3' 10.1	ST173217	110	953	52.7	62.5	23.2	3.66	.560
LRF1D018	50' 59.2	3' 10.5	ST168217	97.	873	31.1	63.7	18.7	3.20	.490
LRF1D019	50' 59.2	3' 9.22	ST183217	95.	1060	47.2	69.4	23.2	3.94	.600
LRF1D019	50' 59.2	3' 9.67	ST178217	100	1214	42.5	62.7	21.1	4.26	.638
LRF1D020	50' 59.2	3' 8.33	ST194217	100	984	42.5	59.2	20.2	3.58	.560
LRF1D020	50' 59.2	3' 7.55	ST201216	92.	1330	38.7	60.7	19.7	4.51	.660
LRF1D021	50' 59.2	3' 7.52	ST215216	121	559	32.5	50.2	16.5	2.25	.388
LRF1D021	50' 59.2	3' 7.50	ST220217	123	935	40.9	59.7	20.1	3.45	.550
LRF1D022	50' 59.2	3' 7.43	ST204217	110	1246	41.2	58.7	20	4.30	.670
LRF1D022	50' 59.2	3' 7.88	ST199217	119	665	32.2	45.2	15.5	2.50	.409
LRF1D023	50' 59.2	3' 5.85	ST223217	95.	1016	45.7	55.5	20.2	3.70	.550
LRF1D023	50' 59.2	3' 6.75	ST212217	97.	1119	44.7	84	25.2	4.17	.648
LRF1D024	50' 59.2	3' 4.88	ST234217	101	689	31.7	67	19.2	2.73	.479
LRF1D024	50' 59.2	3' 5.23	ST230217	99.	687	31.2	44.2	15.1	2.53	.418
LRF1D025	50' 59.2	3' 4.03	ST244217	103	883	58.5	50.4	22.2	3.46	.540
LRF1D025	50' 59.2	3' 4.48	ST239217	98.	849	48.9	51.2	20.2	3.25	.509
LRF1D026	50' 59.2	3' 3.13	ST255217	117	906	57.4	63.4	24.5	3.58	.588
LRF1D026	50' 59.2	3' 3.58	ST250217	89.	1045	43.5	70.9	22.7	3.85	.600
LRF1D027	50' 59.2	3' 2.3	ST265217	88.	630	58.5	52.9	22.7	2.76	.5
LRF1D027	50' 59.2	3' 2.7	ST260217	101	786	60	53.9	23.2	3.23	.540
LRF1D028	50' 59.2	3' 1.43	ST275217	79.	786	42	60	20.2	3.04	.509
LRF1D028	50' 59.2	3' 1.88	ST270217	92.	680	63	53.9	24	2.98	.518
LRF1D029	50' 59.2	3' .33	ST288217	99.	849	41.2	67.5	21.6	3.26	.528
LRF1D029	50' 59.2	3' .91	ST281217	100	872	35.2	67.8	20.2	3.25	.528
LRF1D030	50' 59.2	2'59.64	ST296217	103	704	55.5	59.9	23.5	3	.518
LRF1D030	50' 59.2	2'59.91	ST293217	96.	700	55.4	74.4	26.1	3.07	.550
LRF1D031	50' 59.2	2'58.82	ST306217	99.	572	39.9	46.4	17.5	2.34	.409
LRF1D031	50' 59.2	2'59.28	ST301217	93	545	38.7	40.7	16.2	2.23	.370
LRF1D032	50' 59.2	2'57.93	ST317216	100	684	55.2	51.2	21.7	2.88	.469
LRF1D032	50' 59.2	2'58.38	ST311218	107	566	62.9	49.5	23.2	2.63	.449
LRF1D033	50' 59.2	2' 57.1	ST326217	91.	653	57	50	22	2.79	.469
LRF1D033	50' 59.2	2' 57.5	ST322217	102	591	53.2	50	21.2	2.57	.469
LRF1D034	50' 59.2	2' 56.3	ST336217	94	593	55.2	48	21.2	2.59	.449
LRF1D034	50' 59.2	2' 56.7	ST331217	97	684	57.9	54.2	23	2.93	.509
LRF1D035	50' 59.2	2' 55.5	ST345217	93.	454	54.7	61.9	23.7	2.30	.449
LRF1D035	50' 59.2	2' 55.9	ST341217	95.	588	64.5	60.2	25.5	2.77	.5
LRF1D036	50' 59.2	2'54.63	ST356217	95.	329	46	46	18.7	1.75	.319
LRF1D036	50' 59.2	2'55.08	ST350217	93	484	32.2	61	18.2	2.13	.400
LRF1D037	50' 59.3	2'53.73	ST366217	92.	367	32	45.7	15.6	1.70	.319
LRF1D037	50' 59.3	2'54.18	ST361217	110	378	30.5	47.9	15.6	1.73	.349

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1D038	50' 59.2	2' 52.9	ST376217	94.	463	31.5	50.7	16.2	1.99	.360
LRF1D038	50' 59.3	2' 53.3	ST371214	96	448	36	53.2	17.7	2.00	.370
LRF1D039	50' 59.2	2'52.03	ST386213	99.	512	39.9	60.2	20	2.27	.388
LRF1D039	50' 59.2	2'52.48	ST381214	95.	449	27	39	13.1	1.82	.300
LRF1D040	50' 59.2	2'52.48	ST381214	98.	410	29	61.7	17.7	1.88	.370
LRF1D040	50' 59.3	2'52.03	ST386214	101	422	34	55	17.7	1.94	.360
LRF1D041	50' 59.2	2'51.43	ST394214	88.	305	28	45.4	14.6	1.48	.259
LRF1D041	50' 59.2	2'52.28	ST383214	75.	496	36	62.7	19.6	2.22	.388
LRF1D042	50' 59.2	2'50.55	ST404213	92.	420	42.7	56.9	20	2.03	.379
LRF1D042	50' 59.2	2'50.85	ST400214	95	453	41.4	59.5	20.2	2.14	.400
LRF1D043	50' 59.2	2' 48.9	ST423214	91	336	29.7	49	15.6	1.62	.300
LRF1D043	50' 59.2	2' 49.9	ST412214	83	353	34.2	64.5	19.5	1.82	.360
LRF1D044	50' 59.2	2'47.73	ST437214	91.	573	44	54.9	19.7	2.47	.418
LRF1D044	50' 59.2	2'48.18	ST432214	95.	474	37.4	62.2	19.7	2.17	.388
LRF1D045	50' 59.2	2'46.82	ST448214	90.	539	44.2	52.5	19.5	2.34	.409
LRF1D045	50' 59.2	2'47.28	ST443215	101	569	36.7	70	21.1	2.48	.439
LRF1D046	50' 59.2	2'46.15	ST456215	98.	460	41.2	53	19	2.09	.379
LRF1D046	50' 59.2	2'46.45	ST452215	117	500	32.9	42.5	15.1	2.03	.360
LRF1D047	50' 59.2	2'45.18	ST467214	90.	692	64	62.9	25.7	3.07	.518
LRF1D047	50' 59.2	2'45.73	ST461214	90	522	48	66	22.7	2.46	.449
LRF1D048	50' 59.2	2'44.23	ST479214	85.	565	46.4	69	23.1	2.56	.469
LRF1D048	50' 59.2	2'44.68	ST473214	80.	639	51.2	81	26.2	2.92	.509
LRF1D049	50' 59.2	2' 43.4	ST489214	89.	501	39.5	70.5	21.7	2.31	.439
LRF1D049	50' 59.2	2' 43.8	ST484214	83.	697	63	70.9	27.1	3.14	.518
LRF1D050	50' 59.2	2'42.53	ST499213	92.	401	29.2	69	19.2	1.91	.370
LRF1D050	50' 59.2	2'42.98	ST494213	97.	449	26.5	72.0	19.1	2.03	.400
LRF1D051	50' 59.2	2' 42	ST505213	90.	461	41.7	55.5	19.6	2.14	.400
LRF1D051	50' 59.2	2' 42.2	ST503213	88.	490	48	63.7	22.2	2.33	.439
LRF1D052	50' 59.2	2'41.45	ST512213	90.	569	45.5	66.4	22.2	2.54	.460
LRF1D052	50' 59.2	2'41.75	ST508213	90.	491	30.5	71	19.7	2.20	.409
LRF1D053	50' 59.2	2'40.77	ST520213	89	406	48	48.7	19.7	2.00	.349
LRF1D053	50' 59.2	2'41.13	ST515213	96.	469	46	56.9	20.7	2.22	.409
LRF1D054	50' 59.2	2'40.08	ST528213	89.	508	48	50	20	2.29	.388
LRF1D054	50' 59.2	2'40.43	ST524213	88.	473	43.5	46.5	18.2	2.13	.379
LRF1D055	50' 59.2	2'39.15	ST539213	103	376	38.7	45.5	17.1	1.78	.330
LRF1D055	50' 59.2	2'39.65	ST533213	94.	436	36.7	43.7	16.2	1.91	.340
LRF1D056	50' 59.2	2'38.22	ST550213	97.	404	41	58.2	19.7	2	.370
LRF1D056	50' 59.2	2'38.68	ST544213	96.	417	33.5	47.2	16.2	1.86	.319
LRF1D057	50' 59.2	2'37.32	ST560213	98.	453	42	54.7	19.5	2.10	.400
LRF1D057	50' 59.2	2'37.78	ST555213	101	374	38	43	16.2	1.75	.330
LRF1D058	50' 59.2	2' 36.5	ST570213	96	442	37.5	64.5	20.2	2.08	.400
LRF1D058	50' 59.2	2' 36.9	ST565213	97.	492	44.7	58	20.7	2.26	.409
LRF1D059	50' 59.2	2'35.63	ST580213	92.	500	43.7	70.0	22.7	2.38	.430
LRF1D059	50' 59.2	2'36.08	ST575213	98.	524	28.2	63	17.7	2.21	.400
LRF1D060	50' 59.2	3'34.72	SS880213	94.	466	48	52.7	20.5	2.21	.388
LRF1D060	50' 59.2	3'35.18	SS875213	93.	515	37.5	65.3	20.2	2.29	.409
LRF1E001	50' 58.4	3' 25.3	SS992204	102	457	50.5	46.7	19.7	2.17	.388
LRF1E001	50'58.48	3'24.83	SS997205	103	391	49.4	44.5	19.2	1.96	.379
LRF1E002	50'58.53	3' 24.4	ST003205	102	480	54.7	52.9	22	2.31	.439
LRF1E002	50'58.54	3' 24	ST008205	89.	509	54.2	57	22.6	2.43	.439
LRF1E003	50'58.53	3' 23.6	ST013205	112	410	65.4	45.7	23.1	2.21	.430
LRF1E003	50' 58.5	3'23.21	ST017204	92.	516	47	49.2	19.6	2.29	.409
LRF1E004	50'58.46	3'22.81	ST022204	85.	521	51.7	49.2	20.7	2.38	.418
LRF1E004	50'58.42	3'22.42	ST027203	104	656	33.4	49.5	16.6	2.51	.439
LRF1E005	50'58.36	3'22.05	ST031202	82.	629	54	55.5	22.2	2.74	.460
LRF1E005	50'58.27	3'21.72	ST035200	99.	661	55.5	54.5	22.5	2.82	.490
LRF1E006	50'58.19	3'21.37	ST039199	119	519	55	57.7	23	2.47	.479
LRF1E006	50'58.12	3' 21	ST044197	110	650	45.9	58.7	21.1	2.73	.469
LRF1E007	50'58.04	3'20.68	ST047196	91.	535	39.7	39.7	16.2	2.21	.379
LRF1E007	50'57.94	3'20.39	ST051194	110	467	38.7	46.7	17.2	2.04	.379
LRF1E008	50'57.89	3'20.08	ST054193	103	445	35.5	35.2	14.5	1.87	.319
LRF1E008	50'57.88	3'19.74	ST059193	105	489	40.2	39.7	16.2	2.07	.379

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1E009	50' 57.9	3'19.39	ST063193	104	473	47.7	46	19.2	2.18	.379
LRF1E009	50'57.95	3' 19	ST067194	87	429	32.9	35.5	13.8	1.79	.319
LRF1E010	50'58.03	3'18.63	ST072196	114	398	38.7	35.5	15.3	1.78	.319
LRF1E010	50'58.16	3'18.26	ST076198	116	508	37	30.2	13.8	2.02	.349
LRF1E011	50'58.29	3'17.84	ST081200	101	597	30	38.5	13.8	2.25	.379
LRF1E011	50'58.42	3'17.35	ST087203	108	355	32.9	25.6	12.1	1.52	.25
LRF1E012	50'58.54	3'16.83	ST093205	133	238	29.1	21.7	10.5	1.13	.209
LRF1E012	50'58.65	3'16.28	ST099207	133	397	22.7	28.7	10.3	1.53	.280
LRF1E013	50'58.75	3'15.75	ST106209	91.	903	26.5	42.2	13.6	3.06	.469
LRF1E013	50'58.85	3'15.24	ST112211	90.	817	42.4	35.9	16.1	2.98	.439
LRF1E014	50'58.95	3'14.65	ST119212	142	884	31.1	31.2	12.6	3	.479
LRF1E014	50'59.04	3' 14	ST126213	122	434	36.9	16.5	11.3	1.74	.310
LRF1E015	50'59.05	3'13.45	ST133214	103	1168	43.4	41.7	17.2	4	.600
LRF1E015	50'58.98	3'13.02	ST138212	104	1147	49.2	38.7	18.2	3.98	.600
LRF1E016	50'58.89	3'12.61	ST143211	94.	2187	47	53	20.2	4.5	.670
LRF1E016	50'58.78	3'12.24	ST147209	85.	1239	50.4	64.0	23.1	4.42	.620
LRF1E017	50' 58.7	3'11.84	ST152207	93.	927	45.2	48.2	19	3.40	.528
LRF1E017	50'58.64	3'11.42	ST157206	90.	940	44.2	54.7	20	3.47	.528
LRF1E018	50'58.61	3'11.02	ST162205	97	1259	53.5	55.5	22.2	4.46	.660
LRF1E018	50'58.62	3'10.65	ST166206	100	1217	49	57	21.5	4.05	.629
LRF1E019	50'58.63	3'10.23	ST171206	106	902	47.7	47.4	19.2	3.34	.518
LRF1E019	50'58.64	3' 9.71	ST175206	100	898	51.7	55	21.7	3.45	.528
LRF1E020	50'58.65	3' 9.32	ST182206	111	1064	45.5	54	20.1	3.80	.600
LRF1E020	50'58.66	3' 9.01	ST187206	111	1234	48.7	65	22.7	4.40	.680
LRF1E021	50'58.67	3' 8.43	ST192206	99.	752	54.5	47.7	21	3.01	.490
LRF1E021	50'58.68	3' 7.94	ST198207	94.	1138	46.9	50.7	19.7	4.01	.610
LRF1E022	50'58.69	3' 7.53	ST203207	107	1073	41.7	54.2	19.2	3.78	.588
LRF1E022	50' 58.7	3' 7.18	ST207207	98.	798	33	54.5	17.2	2.95	.479
LRF1E023	50' 58.7	3' 6.81	ST212207	98.	1112	57	69.8	25.6	4.19	.629
LRF1E023	50'58.68	3' 6.42	ST216207	92.	863	47	59.7	21.5	3.31	.540
LRF1E024	50'58.68	3' 6.01	ST221207	99.	905	51.7	64.4	23.2	3.51	.588
LRF1E024	50'58.69	3' 5.59	ST226207	101	867	47.7	67	23	3.40	.550
LRF1E025	50'58.73	3' 5.13	ST231207	115	894	50.5	65.8	23.2	3.5	.578
LRF1E025	50' 58.8	3' 4.63	ST237208	218	766	52	49.2	20.7	3.03	.528
LRF1E026	50'58.86	3' 4.15	ST243209	97	947	71.3	63.5	27.7	3.85	.648
LRF1E026	50'58.92	3' 3.69	ST248210	86.	926	67.5	68	27.6	3.78	.610
LRF1E027	50'58.96	3' 3.24	ST254211	98.	778	58.4	67.5	25.5	3.27	.569
LRF1E027	50'58.99	3' 2.79	ST259211	113	676	51.2	48.2	20.2	2.77	.479
LRF1E028	50'59.01	3' 2.35	ST264212	65	804	56	52.2	22.2	3.22	.509
LRF1E028	50'59.04	3' 1.94	ST269212	85.	606	64.8	46.2	23.1	2.74	.460
LRF1E029	50'59.07	3' 1.45	ST275213	110	671	77	56.2	27.6	3.14	.560
LRF1E029	50'59.12	3' .88	ST282214	86.	609	63.5	47.4	23	2.75	.469
LRF1E030	50'59.35	3' .36	ST288218	91.	629	51	51.5	20.7	2.68	.469
LRF1E030	50'59.77	2'59.87	ST294226	103	749	61.5	61.4	25.1	3.20	.550
LRF1E031	50'59.72	2'59.38	ST299225	82.	725	44.5	45.7	18.2	2.81	.449
LRF1E031	50' 59.2	2'58.89	ST305215	94.	687	53.9	50.7	21.2	2.85	.490
LRF1E032	50'58.96	2'58.42	ST311211	85.	660	74	45.9	25.1	3	.5
LRF1E032	50'58.99	2'57.99	ST316211	87.	672	62	44	22.1	2.88	.469
LRF1E033	50'59.02	2'57.52	ST321212	92.	660	55.7	40.9	20.1	2.75	.469
LRF1E033	50'59.05	2'57.01	ST327213	91.	682	66.8	53.7	24.7	3.01	.509
LRF1E034	50'59.06	2'56.55	ST333213	92.	738	56.2	53.7	22.5	3.04	.509
LRF1E034	50'59.05	2'56.15	ST338213	83	653	67	65	27	3.01	.540
LRF1E035	50'59.03	2'55.75	ST342212	83.	515	63.2	47	22.7	2.48	.418
LRF1E035	50'59.01	2'55.34	ST347211	82	461	40.5	46.4	17.6	2.04	.379
LRF1E036	50' 59	2'54.94	ST352211	87.	541	54.2	41.5	19.7	2.41	.400
LRF1E036	50'59.01	2'54.53	ST357211	93.	310	42	45.4	17.7	1.64	.340
LRF1E037	50'59.02	2'54.12	ST362211	92.	510	41.4	46.5	17.7	2.21	.379
LRF1E037	50'59.05	2'53.73	ST366212	95.	386	39.5	48.2	17.7	1.86	.360
LRF1E038	50' 59.1	2'53.17	ST373212	103	471	47.5	42.2	18.2	2.14	.379
LRF1E038	50'59.17	2'52.46	ST381214	105	462	36.7	50.9	17.6	2.03	.388
LRF1E039	50'59.21	2'51.91	ST388214	107	462	53.7	44.5	20.2	2.21	.400
LRF1E039	50'59.23	2'51.53	ST392215	103	511	41.5	51.2	18.7	2.24	.400

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1E040	50'59.26	2'51.18	ST396215	95.	542	43.2	66.5	21.7	2.46	.439
LRF1E040	50'59.29	2'50.85	ST400216	105	442	48.2	46	19.2	2.08	.388
LRF1E041	50'59.31	2'50.47	ST405216	100	398	41.2	58	19.7	1.98	.388
LRF1E041	50'59.33	2'50.04	ST410217	94	464	43.2	42	17.2	2.05	.388
LRF1E042	50'59.33	2'49.63	ST415217	90.	486	47.9	61.5	22	2.31	.430
LRF1E042	50' 59.3	2'49.24	ST419216	90.	471	30.7	57	17.2	2.03	.360
LRF1E043	50'59.26	2'48.89	ST424215	89	539	37.2	63.5	20	2.34	.418
LRF1E043	50'59.21	2'48.58	ST427214	87.	546	32.9	64.5	19.2	2.31	.430
LRF1E044	50'59.16	2'48.23	ST431214	89.	425	42.5	40.4	17	1.95	.360
LRF1E044	50'59.12	2'47.84	ST436213	98.	499	40.5	57	19.6	2.24	.409
LRF1E045	50'59.08	2' 47.4	ST441212	94.	489	47.2	57.7	21.2	2.28	.400
LRF1E045	50'59.03	2'46.91	ST447211	88.	658	55.7	61.2	23.7	2.88	.479
LRF1E046	50' 59	2'46.47	ST452211	98.	576	48.9	47.7	19.7	2.49	.430
LRF1E046	50'58.97	2'46.08	ST457210	95.	523	51.2	49.2	20.5	2.38	.409
LRF1E047	50'58.95	2'45.69	ST461209	106	482	34.9	46	16.2	2.03	.370
LRF1E047	50'58.95	2'45.31	ST466209	86.	553	54.2	45	20.5	2.47	.400
LRF1E048	50'58.93	2'44.98	ST470208	80.	547	28.6	53.4	16.2	2.21	.388
LRF1E048	50'58.89	2' 44.7	ST473208	95.	416	39	48.2	17.6	1.94	.379
LRF1E049	50'58.87	2'44.37	ST477207	92.	451	48.2	43.4	18.7	2.09	.360
LRF1E049	50'58.88	2' 44	ST481207	89.	573	52.7	51.2	21.2	2.53	.449
LRF1E050	50'58.89	2'43.62	ST486208	86.	681	54.4	72.5	25.5	3	.518
LRF1E050	50'58.92	2'43.25	ST490208	99	575	59.7	59	24.2	2.69	.469
LRF1E051	50'58.94	2'42.87	ST495208	79.	487	54.5	55.5	22.2	2.34	.409
LRF1E051	50'58.95	2'42.49	ST499209	98	669	51.5	62.7	23.1	2.85	.5
LRF1E052	50'58.97	2'42.13	ST504209	94.	645	53.5	72.4	25.2	2.90	.528
LRF1E052	50'58.98	2'41.79	ST508209	101	682	55.4	69	25.1	3	.528
LRF1E053	50' 59	2'41.42	ST512210	100	635	65	66.8	26.7	2.97	.528
LRF1E053	50'59.03	2' 41	ST517210	100	663	67.5	66.8	27.5	3.06	.550
LRF1E054	50'59.04	2'40.55	ST522210	91.	496	53	70	24.7	2.47	.460
LRF1E054	50'59.03	2'40.05	ST528210	78.	744	50.7	75.3	25.2	3.16	.528
LRF1E055	50' 59	2'39.58	ST534210	98.	629	51	79	25.7	2.88	.518
LRF1E055	50'58.93	2'39.13	ST539208	103	623	58.2	64.9	25	2.83	.509
LRF1E056	50'58.94	2'38.68	ST544208	80.	663	70.5	68	28.2	3.10	.528
LRF1E056	50'59.01	2'38.22	ST550210	88.	629	54.5	56.5	22.6	2.75	.469
LRF1E057	50'59.04	2' 37.8	ST555210	79.	598	58.5	59	24	2.74	.490
LRF1E057	50'59.04	2' 37.4	ST560210	112	507	56.5	46.7	21.2	2.38	.439
LRF1E058	50'59.04	2'36.97	ST565210	110	463	40	51	18.2	2.08	.379
LRF1E058	50'59.04	2'36.53	ST570210	105	521	31.6	44.9	15.3	2.09	.370
LRF1E059	50'59.04	2'36.08	ST575209	98.	379	54.2	46.5	20.7	2	.370
LRF1E059	50'59.04	2'35.63	ST580209	99.	436	60.9	49.7	22.7	2.25	.400
LRF1E060	50'59.04	2' 35.2	ST586209	89	469	49.4	54.5	21.1	2.25	.400
LRF1E060	50'59.04	2' 34.8	ST590209	90.	457	50.7	60	22.2	2.25	.418
LRF1F001	50' 58.3	3'24.23	ST005201	93.	524	49.7	55.2	21.2	2.41	.439
LRF1F001	50' 58.3	3'24.68	ST000202	64.	525	57.2	68.9	25.5	2.57	.449
LRF1F002	50' 58.3	3'23.33	ST016201	87.	436	58.4	64.3	24.7	2.31	.430
LRF1F002	50' 58.3	3'23.78	ST011201	79.	472	57.5	61.9	24.2	2.40	.430
LRF1F003	50' 58.3	3' 22.2	ST029201	94.	513	55	52.7	22	2.42	.439
LRF1F003	50' 58.3	3' 22.8	ST022201	88	486	55.9	54.5	22.5	2.35	.439
LRF1F004	50' 58.3	3' 21.6	ST037201	91.	533	59.7	48.7	22.2	2.5	.430
LRF1F004	50' 58.3	3' 21.8	ST034201	114	539	58.5	65.4	25.1	2.60	.490
LRF1F005	50' 58.3	3' 20.9	ST045201	90.	485	57.5	42	20.7	2.28	.400
LRF1F005	50' 58.3	3' 21.3	ST040201	75.	394	46.9	37	17.2	1.87	.330
LRF1F006	50' 58.3	3'19.73	ST059201	107	540	34.4	49.9	16.7	2.23	.388
LRF1F006	50' 58.3	3'20.38	ST051201	93.	504	46.5	35.7	17	2.18	.370
LRF1F007	50' 58.3	3'18.95	ST068201	90.	325	29.1	38.5	13.6	1.5	.280
LRF1F007	50' 58.3	3'19.25	ST064201	94.	400	42.2	38.5	16.6	1.86	.330
LRF1F008	50' 58.3	3'18.28	ST076201	81.	554	37.7	37.5	15.3	2.22	.360
LRF1F008	50' 58.3	3'18.63	ST072201	104	595	39.7	47.2	17.5	2.42	.409
LRF1F009	50' 58.3	3'17.35	ST087201	99.	550	35.2	39	15.1	2.19	.370
LRF1F009	50' 58.3	3'17.85	ST081201	100	701	33.2	35.7	14	2.54	.400
LRF1F010	50' 58.3	3'16.88	ST092201	91.	1042	44	48	18.7	3.70	.550
LRF1F010	50' 58.3	3'17.03	ST091201	97.	752	44.7	40.4	17.5	2.84	.449

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1F011	50' 58.3	3'16.13	ST101201	92.	873	48	49.2	19.7	3.28	.5
LRF1F011	50' 58.3	3'16.57	ST096201	85.	995	49	38	18	3.54	.5
LRF1F012	50' 58.3	3'15.53	ST108201	86.	1066	51.7	50.9	21	3.88	.560
LRF1F012	50' 58.3	3'15.78	ST105201	90.	899	36.5	49.9	17.2	3.24	.490
LRF1F013	50' 58.3	3'14.95	ST115200	93.	866	55	51.5	21.7	3.38	.518
LRF1F013	50' 58.3	3'15.25	ST112201	88.	694	41	39	16.2	2.65	.418
LRF1F014	50' 58.3	3'14.13	ST125200	95	981	45.9	62.4	21.7	3.66	.560
LRF1F014	50' 58.3	3'14.58	ST120200	89.	1265	66.5	58	25.6	4.65	.670
LRF1F015	50' 58.3	3'13.08	ST137200	95	1535	48.2	56.5	21.2	5.15	.720
LRF1F015	50' 58.3	3'13.63	ST131200	93.	1110	49.7	50.5	20.5	3.97	.600
LRF1F016	50' 58.3	3'11.83	ST152200	91.	800	54.7	49.2	21.2	3.17	.509
LRF1F016	50' 58.3	3'12.48	ST144200	113	1262	40.9	55	19.2	4.32	.638
LRF1F017	50' 58.3	3'10.83	ST164200	97.	1176	64.9	56.9	25	4.38	.638
LRF1F017	50' 58.3	3'11.28	ST159200	86.	1024	48.5	58.9	21.7	3.76	.588
LRF1F018	50' 58.3	3' 10.3	ST170200	101	657	46.5	50.4	19.7	2.70	.460
LRF1F018	50' 58.3	3' 10.5	ST168200	88.	975	57.2	69	25.5	3.80	.600
LRF1F019	50' 58.3	3' 9.9	ST179200	96.	986	59.2	59.7	24.2	3.79	.569
LRF1F019	50' 58.3	3' 9.4	ST185362	111	799	49.5	55.2	21.2	3.16	.518
LRF1F020	50' 58.3	3' 8.36	ST193200	92.	1021	56.2	71	25.7	3.95	.620
LRF1F020	50' 58.3	3' 7.9	SS198200	102	965	51.4	58.7	22.2	3.66	.578
LRF1F021	50' 58.3	3' 7.68	ST201200	107	866	51	54.7	21.5	3.33	.540
LRF1F021	50' 58.3	3' 8.03	ST197200	101	859	49.2	63.2	22.6	3.35	.560
LRF1F022	50' 58.3	3' 6.83	ST211200	100	783	57.2	68.9	25.5	3.28	.550
LRF1F022	50' 58.3	3' 7.28	ST206200	102	888	56.7	74.3	26.2	3.60	.600
LRF1F023	50' 58.3	3' 6	ST221200	98.	684	47.5	61.7	22	2.84	.479
LRF1F023	50' 58.3	3' 6.4	ST216200	107	717	64.5	62	25.7	3.15	.560
LRF1F024	50'58.35	3' 5.05	ST232200	80.	547	43.4	38.7	16.7	2.26	.400
LRF1F024	50'58.32	3' 5.55	ST226200	115	582	56	49.7	21.7	2.58	.460
LRF1F025	50'58.32	3' 4.13	ST243199	114	882	62.5	66.3	26.2	3.59	.588
LRF1F025	50'58.35	3' 4.58	ST238200	79.	598	41.7	48.4	18.2	2.46	.430
LRF1F026	50' 58.3	3' 3.15	ST255199	100	614	69.3	52	25.1	2.84	.518
LRF1F026	50' 58.3	3' 3.65	ST249199	68.	488	52.4	36.4	18.5	2.21	.360
LRF1F027	50' 58.3	3' 2.3	ST265199	85	605	64.0	49.5	23.5	2.75	.5
LRF1F027	50' 58.3	3' 2.7	ST260199	109	616	78.5	53.2	27.2	2.98	.540
LRF1F028	50' 58.3	3' 1.73	ST272199	91.	575	77.4	56.7	27.7	2.88	.540
LRF1F028	50' 58.3	3' 1.97	ST269199	85.	708	65.5	56.4	25.1	3.08	.518
LRF1F029	50' 58.3	3' 1.15	ST278199	98.	374	61.9	70	26.7	2.25	.418
LRF1F029	50' 58.3	3' 1.45	ST275199	98	622	63	65.3	26.1	2.90	.528
LRF1F030	50' 58.3	3' .48	ST286199	105	400	49	52	20.6	2.02	.400
LRF1F030	50' 58.3	3' .83	ST282199	113	397	62.7	53.2	23.7	2.20	.430
LRF1F031	50' 58.3	2'59.48	ST298199	90.	478	65.4	67.5	27.1	2.53	.490
LRF1F031	50' 58.3	3' .03	ST292199	102	459	45.2	67	22.2	2.25	.430
LRF1F032	50' 58.3	2'58.83	ST306199	96	571	67.0	62.5	26.6	2.77	.518
LRF1F032	50' 58.3	2'59.08	ST303199	105	534	61.7	66	26	2.65	.509
LRF1F033	50' 58.3	2'57.95	ST316199	87.	481	51.5	61.2	22.7	2.33	.430
LRF1F033	50' 58.3	2'58.45	ST310199	97	587	67.5	66.3	27.2	2.85	.5
LRF1F034	50' 58.3	2'57.03	ST327199	94	417	57.5	59.5	23.7	2.24	.418
LRF1F034	50' 58.3	2'57.48	ST322199	102	496	60	58.2	24.2	2.47	.460
LRF1F035	50' 58.3	2' 56.2	ST337199	88	447	55.2	53	22.2	2.25	.400
LRF1F035	50' 58.3	2' 56.6	ST332199	94	489	53.7	63.5	23.7	2.42	.460
LRF1F036	50' 58.3	2'55.18	ST349198	82.	477	65.5	57	25.2	2.48	.439
LRF1F036	50' 58.3	2'55.73	ST343199	73.	415	59.5	76.4	27.2	2.35	.460
LRF1F037	50' 58.3	2'54.75	ST354198	100	556	59.9	63.2	25	2.67	.490
LRF1F037	50' 58.3	2'54.85	ST353198	94.	330	56.5	69.4	25.2	2.04	.400
LRF1F038	50' 58.3	2'54.03	ST363198	91.	442	61	74	27.2	2.45	.479
LRF1F038	50' 58.3	2'54.48	ST357198	84	551	58.7	59.2	24.1	2.59	.469
LRF1F039	50' 58.3	2' 52.3	ST383198	93.	460	58.7	67.5	25.6	2.42	.449
LRF1F039	50' 58.3	2' 53.3	ST371198	100	545	63.9	75.8	28.2	2.75	.5
LRF1F040	50' 58.3	2'51.13	ST397198	107	497	48.4	51	20.2	2.27	.418
LRF1F040	50' 58.3	2'51.58	ST392198	109	492	52.7	55	21.7	2.33	.430
LRF1F041	50' 58.3	2' 50.3	ST407198	103	596	46.7	59	21.2	2.57	.449
LRF1F041	50' 58.3	2' 50.7	ST402198	105	510	49	50.9	20.2	2.31	.409

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1F042	50' 58.3	2' 49.5	ST416198	99.	632	57	46.2	21.2	2.73	.439
LRF1F042	50' 58.3	2' 49.9	ST412198	90.	596	56	43	20.5	2.57	.418
LRF1F043	50' 58.3	2' 48.7	ST426198	119	416	40.5	50	18.2	1.97	.379
LRF1F043	50' 58.3	2' 49.1	ST421198	119	508	42.7	55.2	19.7	2.26	.409
LRF1F044	50' 58.3	2'47.82	ST436198	98	519	42.4	50	18.7	2.25	.379
LRF1F044	50' 58.3	2'48.28	ST431198	103	446	46.7	44.5	18.7	2.06	.388
LRF1F045	50' 58.3	2'46.85	ST448198	99.	455	51.7	53.7	21.5	2.23	.418
LRF1F045	50' 58.3	2'47.35	ST442198	99.	505	44.7	51.2	19.2	2.25	.379
LRF1F046	50' 58.3	2' 46	ST458198	93.	494	36	58.5	18.7	2.19	.400
LRF1F046	50' 58.3	2' 46.4	ST453198	99.	499	53	59.5	22.7	2.41	.439
LRF1F047	50' 58.3	2' 45.2	ST467197	111	496	42.2	45	17.7	2.17	.388
LRF1F047	50' 58.3	2' 45.6	ST463197	109	379	41.4	28.6	14.6	1.72	.289
LRF1F048	50' 58.3	2'44.32	ST478197	85.	457	51.4	70.0	24.2	2.33	.409
LRF1F048	50' 58.3	2'44.78	ST472197	93.	496	46.9	57.5	21.1	2.29	.418
LRF1F049	50' 58.3	2'43.35	ST489197	106	418	55	44.7	20.6	2.09	.388
LRF1F049	50' 58.3	2'43.85	ST483197	95.	494	43.2	53.2	19.5	2.23	.388
LRF1F050	50' 58.3	2' 42.5	ST499197	102	355	36.5	39.7	15.5	1.66	.319
LRF1F050	50' 58.3	2' 42.9	ST494197	105	434	48.2	50.9	20.2	2.09	.388
LRF1F051	50' 58.3	2'41.36	ST513197	100	525	50.4	55	21.2	2.41	.439
LRF1F051	50' 58.3	2'41.99	ST505197	100	466	49	52.5	20.7	2.22	.400
LRF1F052	50' 58.3	2'40.64	ST521197	90.	474	41.2	56.5	19.6	2.18	.409
LRF1F052	50' 58.3	2'40.91	ST518197	104	497	52.2	66.3	23.7	2.44	.430
LRF1F053	50' 58.3	2' 39.9	ST530197	95	423	57.4	49.5	22	2.18	.400
LRF1F053	50' 58.3	2' 40.3	ST525197	99.	460	47.7	47.7	19.5	2.15	.388
LRF1F054	50' 58.3	2' 39.1	ST539197	103	515	55.9	49.2	21.6	2.41	.418
LRF1F054	50' 58.3	2' 39.5	ST535197	100	488	43.4	62	21.1	2.26	.409
LRF1F055	50' 58.3	2'38.22	ST550197	95.	467	58.7	53.2	23	2.32	.418
LRF1F055	50' 58.3	2'38.68	ST544197	98.	538	51	63	23	2.50	.430
LRF1F056	50' 58.3	2' 37.4	ST560197	89.	409	46.5	58.2	21.1	2.05	.388
LRF1F056	50' 58.3	2' 37.8	ST555197	95.	485	50	56.5	21.6	2.29	.418
LRF1F057	50' 58.3	2'36.53	ST570197	100	462	56.9	54.5	22.7	2.30	.409
LRF1F057	50' 58.3	2'36.97	ST565197	94.	536	45.4	57.7	20.7	2.40	.418
LRF1F058	50' 58.3	2'35.63	ST580196	100	388	47.7	58.5	21.2	2.01	.379
LRF1F058	50' 58.3	2'36.08	ST575196	94.	399	52	47	20.2	2.01	.360
LRF1F059	50' 58.3	2'34.95	ST589196	100	350	51.7	53.7	21.5	1.94	.370
LRF1F059	50' 58.3	2'35.25	ST585196	110	487	38.7	44	16.7	2.08	.360
LRF1F060	50' 58.3	3'34.65	SS881203	88	512	48	45.2	19.1	2.26	.400
LRF1F060	50' 58.3	3'34.75	SS880203	102	420	49.2	45.5	19.2	2.03	.379
LRF1G001	50'57.37	3'25.68	SS987184	104	456	37.5	55.2	18.5	2.06	.400
LRF1G001	50'57.42	3'25.05	SS995185	113	397	27.7	50.7	15.5	1.75	.340
LRF1G002	50'57.44	3'24.47	ST003185	103	476	31.5	49.2	16.1	2.00	.370
LRF1G002	50'57.45	3'23.94	ST009185	93.	463	39.4	59.9	19.7	2.15	.400
LRF1G003	50'57.45	3'23.42	ST015185	87.	530	41.5	64.3	21.1	2.39	.418
LRF1G003	50'57.44	3'22.91	ST021185	109	575	33.7	61	18.7	2.40	.439
LRF1G004	50'57.43	3'22.44	ST027185	93.	566	39.4	53.5	18.6	2.39	.400
LRF1G004	50'57.42	3'22.01	ST032184	83.	537	35.5	52.5	17.6	2.25	.409
LRF1G005	50'57.42	3'21.55	ST037184	119	469	38	47.7	17.2	2.04	.400
LRF1G005	50'57.43	3'21.05	ST043185	88.	435	38.2	58.9	19.2	2.03	.370
LRF1G006	50'57.45	3'20.55	ST049185	114	480	32.2	38.2	14.1	1.96	.349
LRF1G006	50'57.46	3'20.05	ST055185	108	485	24.2	44.7	13.6	1.91	.340
LRF1G007	50'57.47	3'19.57	ST061185	91.	448	31.2	41	14.5	1.87	.330
LRF1G007	50' 57.5	3'19.13	ST066186	104	364	32	32.5	13.1	1.60	.270
LRF1G008	50'57.54	3'18.65	ST071187	101	580	14.5	44.4	11.3	2.05	.330
LRF1G008	50'57.61	3'18.13	ST078188	91.	469	31.2	36.5	13.6	1.89	.310
LRF1G009	50'57.67	3'17.66	ST083189	93.	469	20.5	29.1	9.93	1.73	.259
LRF1G009	50'57.72	3'17.21	ST088190	106	578	20.2	23.2	8.84	1.98	.300
LRF1G010	50'57.73	3'16.79	ST093190	105	925	26.7	35.5	12.5	3.07	.418
LRF1G010	50' 57.7	3'16.39	ST098190	112	898	26.7	36.2	12.6	3.00	.469
LRF1G011	50'57.66	3' 16	ST103189	77.	1204	38.2	49.5	17.7	4.09	.578
LRF1G011	50'57.63	3'15.61	ST107188	90.	1070	36	57.7	18.6	3.75	.560
LRF1G012	50'57.62	3'15.17	ST113188	93	882	36.2	62.7	19.6	3.26	.5
LRF1G012	50'57.64	3' 14.7	ST118187	102	897	38.7	57.4	19.2	3.29	.528

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1G013	50'57.66	3'14.26	ST123188	103	1021	40.7	53.7	19	3.65	.540
LRF1G013	50'57.68	3'13.86	ST128188	89	1115	40.4	58	19.7	3.93	.569
LRF1G014	50'57.71	3'13.46	ST133189	86.	2187	44.9	60	21.1	4.51	.648
LRF1G014	50'57.76	3'13.05	ST138190	96.	1156	35	66.9	20.1	4.03	.610
LRF1G015	50'57.75	3'12.62	ST143189	102	914	28.2	45.7	14.6	3.15	.518
LRF1G015	50' 57.7	3'12.16	ST148189	97	845	34.2	47.5	16.2	3.03	.479
LRF1G016	50'57.67	3'11.72	ST153188	116	995	24.5	53	15.1	3.38	.550
LRF1G016	50'57.68	3' 11.3	ST158188	106	517	28.6	41.4	14	2.02	.379
LRF1G017	50' 57.7	3'10.88	ST163189	88.	826	31.7	44.2	15.3	2.94	.460
LRF1G017	50'57.75	3'10.47	ST168189	91.	770	27.7	51.5	15.6	2.77	.469
LRF1G018	50'57.79	3'10.25	ST171190	101	759	27	52.7	15.6	2.75	.449
LRF1G018	50'57.82	3'10.24	ST171191	90.	792	31.2	57.2	17.5	2.93	.479
LRF1G019	50'57.86	3'10.07	ST178191	99.	838	26.2	54.5	15.8	2.98	.490
LRF1G019	50'57.89	3' 9.49	ST180192	113	791	29.2	52	16.1	2.85	.509
LRF1G020	50'57.92	3' 8.99	ST186193	96.	826	40.4	55.4	19.2	3.10	.509
LRF1G020	50'57.97	3' 8.59	ST192193	90.	949	39.7	56	19.2	3.45	.528
LRF1G021	50' 58	3' 7.99	ST198194	87	895	49.2	63.5	22.7	3.47	.540
LRF1G021	50' 58	3' 7.52	ST203194	115	823	32.7	67	19.6	3.08	.518
LRF1G022	50' 58	3' 7.09	ST208194	109	651	24	59.9	16.2	2.48	.418
LRF1G022	50' 58	3' 6.7	ST213194	100	774	42	60.4	20.5	3.01	.509
LRF1G023	50'57.98	3' 6.3	ST218194	108	768	33.7	52.2	17.1	2.84	.469
LRF1G023	50'57.97	3' 5.91	ST222194	102	1086	47.9	67	23	4	.638
LRF1G024	50'57.95	3' 5.52	ST227193	103	860	36.9	64.9	20.2	3.24	.550
LRF1G024	50'57.94	3' 5.13	ST231192	71.	645	42.2	50	18.7	2.59	.430
LRF1G025	50'57.89	3' 4.72	ST236191	82	747	55	58	23	3.08	.509
LRF1G025	50' 57.8	3' 4.31	ST241189	69.	663	59	51	22.6	2.85	.490
LRF1G026	50'57.72	3' 3.9	ST246188	102	616	69.5	67	27.7	2.98	.560
LRF1G026	50'57.63	3' 3.49	ST251186	93.	624	61.7	61	25.1	2.84	.509
LRF1G027	50'57.59	3' 3.06	ST256186	110	721	63.7	56.4	24.7	3.10	.560
LRF1G027	50'57.59	3' 2.6	ST261186	101	565	46.5	40.9	17.7	2.38	.409
LRF1G028	50' 57.6	3' 2.13	ST267186	91.	635	66.8	48	23.7	2.84	.5
LRF1G028	50'57.63	3' 1.64	ST273186	84	519	65.5	63.9	26.5	2.64	.469
LRF1G029	50'57.66	3' 1.17	ST278187	92	427	35.2	52.5	17.5	1.95	.370
LRF1G029	50'57.69	3' .7	ST284187	101	468	51.9	57.5	22.2	2.27	.418
LRF1G030	50'57.71	3' .22	ST289188	99	515	44.7	65.5	22	2.39	.460
LRF1G030	50'57.72	2'59.74	ST295188	101	532	66.5	62.2	26.2	2.68	.490
LRF1G031	50'57.73	2'59.23	ST301188	93.	487	45.7	51.7	19.7	2.23	.388
LRF1G031	50'57.75	2'58.68	ST308188	92.	582	34.7	53.9	17.7	2.38	.430
LRF1G032	50'57.75	2'58.15	ST314188	88.	483	41.7	56.7	19.7	2.21	.400
LRF1G032	50'57.74	2'57.64	ST320188	86.	476	38.2	63	20.2	2.20	.409
LRF1G033	50'57.74	2'57.16	ST326188	79	576	45.9	62.2	21.7	2.53	.430
LRF1G033	50'57.75	2'56.71	ST331188	82.	397	33.4	35.4	14	1.73	.319
LRF1G034	50'57.74	2'56.55	ST333188	89.	396	27.2	37.2	12.8	1.64	.319
LRF1G034	50'57.73	2'56.68	ST331188	82	437	43.2	55.9	20	2.08	.370
LRF1G035	50'57.72	2' 56.5	ST334188	84.	413	46.4	41.5	18	1.97	.349
LRF1G035	50'57.72	2' 56	ST339188	90.	301	30.2	34.9	13.1	1.41	.270
LRF1G036	50'57.72	2'55.54	ST345187	90.	337	26.7	50.2	15.1	1.59	.310
LRF1G036	50'57.73	2'55.11	ST350187	92.	398	41.4	39.5	16.6	1.85	.349
LRF1G037	50'57.72	2'54.65	ST355187	93.	369	32.7	43.2	15.3	1.70	.319
LRF1G037	50'57.71	2'54.15	ST361187	87.	399	37.5	54.2	18.2	1.90	.360
LRF1G038	50'57.69	2' 53.7	ST367186	84.	564	30.1	55	16.7	2.26	.400
LRF1G038	50'57.68	2'53.31	ST371186	80.	711	43.4	59.2	20.6	2.85	.449
LRF1G039	50'57.68	2' 52.9	ST376186	101	494	38.5	38.5	15.6	2.05	.349
LRF1G039	50' 57.7	2'52.47	ST381187	90.	559	36	51.4	17.5	2.29	.400
LRF1G040	50'57.72	2'52.03	ST386187	95.	529	32	48.5	16.1	2.16	.370
LRF1G040	50'57.73	2'51.56	ST392187	90.	532	28.6	34.7	12.8	2.01	.340
LRF1G041	50'57.74	2' 51.1	ST397187	102	437	30	46.9	15.3	1.87	.330
LRF1G041	50'57.75	2'50.67	ST403187	102	521	33.2	46.7	16	2.14	.379
LRF1G042	50'57.77	2'50.24	ST408188	98.	634	40.5	43.7	17.1	2.50	.400
LRF1G042	50'57.78	2'49.81	ST413188	99.	541	27.2	45.4	14.3	2.10	.360
LRF1G043	50' 57.8	2'49.39	ST418188	88.	662	30.2	49.7	15.8	2.50	.418
LRF1G043	50'57.83	2'48.99	ST422189	90.	567	33	51	16.7	2.28	.388

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1G044	50'57.86	2'48.57	ST427190	93.	567	28.2	52.9	16	2.25	.388
LRF1G044	50'57.89	2'48.14	ST432190	97.	542	29.5	44	14.6	2.14	.379
LRF1G045	50'57.94	2'47.68	ST438191	93.	462	40.7	51.2	18.5	2.08	.370
LRF1G045	50'58.01	2'47.19	ST444192	96.	440	36.4	58	18.7	2.02	.370
LRF1G046	50'58.04	2'46.71	ST449193	114	438	33.5	38.7	14.6	1.86	.340
LRF1G046	50'58.05	2'46.24	ST455193	108	421	28.2	48.9	15.3	1.83	.340
LRF1G047	50'58.03	2'45.77	ST460192	104	406	24.2	40.7	12.8	1.66	.300
LRF1G047	50'57.99	2'45.31	ST466191	110	444	32.4	50.2	16.5	1.95	.370
LRF1G048	50'57.97	2'44.85	ST471191	96	456	41.7	49.2	18.2	2.06	.370
LRF1G048	50'57.96	2'44.38	ST477190	100	569	28.2	44.2	14.5	2.20	.370
LRF1G049	50'57.96	2'43.91	ST482190	95.	487	28.2	43.7	14.3	1.97	.340
LRF1G049	50'57.97	2'43.44	ST488191	92.	498	32	51.5	16.6	2.08	.370
LRF1G050	50'57.98	2'43.25	ST490191	79.	606	44.4	46.5	18.5	2.5	.400
LRF1G050	50'57.99	2'43.32	ST489191	104	634	36	48.2	17	2.5	.418
LRF1G051	50'57.97	2'43.16	ST491191	78.	595	38.7	53.2	18.5	2.46	.400
LRF1G051	50'57.94	2'42.78	ST496190	97.	619	34.4	48.7	16.6	2.44	.400
LRF1G052	50'57.89	2'42.37	ST501189	86.	479	31	43.7	15	1.98	.360
LRF1G052	50'57.85	2'41.92	ST506188	76.	656	38.9	66.3	20.7	2.72	.449
LRF1G053	50'57.81	2'41.47	ST511188	89	503	40.4	54	19	2.23	.400
LRF1G053	50'57.79	2'41.02	ST517187	88	463	35	60.2	18.7	2.08	.388
LRF1G054	50'57.78	2'40.59	ST522187	83	584	28.7	53.7	16.2	2.29	.370
LRF1G054	50'57.77	2'40.16	ST527187	74.	650	32.4	57.2	17.7	2.54	.409
LRF1G055	50'57.77	2'39.72	ST532187	87.	558	41.5	47	18	2.33	.409
LRF1G055	50'57.78	2'39.27	ST537187	97.	570	24.2	61.2	16.7	2.25	.400
LRF1G056	50' 57.8	2'38.83	ST543187	94.	522	32	48.4	16.1	2.14	.370
LRF1G056	50'57.82	2' 38.4	ST548188	92.	564	31.2	48	15.8	2.25	.388
LRF1G057	50'57.82	2'37.94	ST553188	93.	636	28.2	57.5	16.7	2.47	.439
LRF1G057	50'57.81	2'37.45	ST559188	93.	621	32.2	44.7	15.3	2.39	.400
LRF1G058	50' 57.8	2'36.95	ST565187	99.	533	41.7	48.5	18.2	2.27	.388
LRF1G058	50' 57.8	2'36.45	ST571187	96.	508	31.1	51.9	16.5	2.10	.388
LRF1G059	50'57.83	2'35.95	ST577187	103	471	42.2	54.9	19.6	2.17	.388
LRF1G059	50'57.88	2'35.45	ST583188	106	359	30.2	43.7	14.8	1.63	.330
LRF1G060	50' 57.9	2'35.08	ST587188	105	458	33.5	44.9	15.6	1.96	.349
LRF1G060	50' 57.9	2'34.83	ST590188	95.	529	36.9	49.5	17.2	2.23	.379
LRF1H001	50'56.83	3'25.23	SS993174	84.	556	46.2	65	22.2	2.50	.418
LRF1H001	50'56.84	3'25.56	SS989175	92.	465	43	50.4	18.7	2.13	.388
LRF1H002	50'56.73	3'24.22	ST005172	93.	563	42	47.7	18.2	2.35	.400
LRF1H002	50'56.79	3'24.79	SS998174	69.	596	46.2	53.2	20.1	2.53	.430
LRF1H003	50'56.55	3'23.09	ST019168	138	602	50.9	50.4	20.7	2.58	.460
LRF1H003	50'56.65	3'23.66	ST012170	75.	595	27.2	56.2	16.2	2.32	.388
LRF1H004	50'56.56	3'22.06	ST031168	79.	537	45.7	62.4	21.7	2.44	.418
LRF1H004	50'56.52	3'22.56	ST025168	77.	487	43.2	55.2	19.7	2.23	.400
LRF1H005	50'56.69	3'20.87	ST045171	91	293	32	25.7	11.8	1.36	.25
LRF1H005	50'56.62	3' 21.5	ST038170	108	455	38.2	51	18	2.03	.370
LRF1H006	50'56.81	3'19.75	ST058173	110	342	29.7	43	14.5	1.59	.289
LRF1H006	50'56.75	3'20.29	ST052172	104	319	29.7	31.1	12.3	1.44	.259
LRF1H007	50'56.85	3'18.74	ST070174	99.	399	15.3	31	9.13	1.49	.25
LRF1H007	50'56.84	3'19.24	ST064174	95.	504	28.2	37.9	13.3	1.98	.330
LRF1H008	50' 56.9	3'17.77	ST082175	93.	783	36	34.5	14.3	2.78	.400
LRF1H008	50'56.87	3'18.25	ST076174	90.	555	26.2	31.2	11.6	2.02	.310
LRF1H009	50'56.97	3'16.93	ST092176	104	2183	36.7	66	20.2	4.46	.638
LRF1H009	50'56.94	3'17.33	ST087175	99.	763	37.7	34.2	14.8	2.75	.418
LRF1H010	50' 57	3'16.06	ST102177	98.	1158	40.5	55.5	19.2	4.03	.578
LRF1H010	50'56.99	3' 16.5	ST097176	98.	900	31.7	46.4	15.6	3.16	.469
LRF1H011	50'57.03	3'15.28	ST111177	88.	654	44	52.2	19.5	2.67	.418
LRF1H011	50'57.01	3'15.65	ST107177	93.	618	38.9	50	17.7	2.5	.418
LRF1H012	50'57.06	3'14.46	ST121177	89.	992	29.2	67.3	18.7	3.51	.528
LRF1H012	50'57.05	3'14.88	ST116177	80	841	55	62	23.7	3.38	.509
LRF1H013	50'57.07	3'13.61	ST131177	68.	899	45	46.5	18.6	3.29	.479
LRF1H013	50'57.06	3'14.04	ST126177	88.	828	45.4	47.7	18.7	3.13	.490
LRF1H014	50'57.12	3'12.76	ST141178	99.	626	46.2	46.5	18.7	2.56	.418
LRF1H014	50'57.09	3'13.19	ST136177	94.	1039	40.2	61.2	20.2	3.74	.569

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1H015	50'57.18	3'11.91	ST151179	96.	632	41.7	41	16.7	2.5	.400
LRF1H015	50'57.15	3'12.34	ST146178	77.	628	55.7	47.2	21.2	2.71	.430
LRF1H016	50'57.25	3'11.08	ST161180	100	168	21.2	24.7	9.31	.879	.180
LRF1H016	50'57.21	3'11.49	ST156179	108	359	23.2	36.5	11.8	1.5	.289
LRF1H017	50'57.25	3'10.28	ST170180	89.	256	28.6	45.5	14.6	1.36	.25
LRF1H017	50'57.26	3'10.68	ST166180	93.	194	18.7	25.2	8.81	.930	.188
LRF1H018	50'57.23	3' 9.38	ST181180	97.	550	32.4	38	14.3	2.15	.370
LRF1H018	50'57.24	3' 8.85	SS186180	81	528	30.7	46.7	15.3	2.13	.349
LRF1H019	50'57.31	3' 8.49	ST192181	85.	654	43.7	54	19.7	2.68	.439
LRF1H019	50'57.26	3' 8.92	ST187180	101	580	42	51	18.7	2.44	.379
LRF1H020	50' 57.4	3' 7.67	ST201183	89.	739	49.4	75.4	24.7	3.13	.540
LRF1H020	50'57.36	3' 8.07	ST197182	101	884	46.5	65.8	22.5	3.43	.540
LRF1H021	50'57.42	3' 6.86	ST211183	89.	652	37	58	18.7	2.60	.430
LRF1H021	50'57.42	3' 7.27	ST206183	89.	538	48	59.2	21.7	2.45	.409
LRF1H022	50'57.42	3' 6.05	ST221183	75.	568	57.9	44.5	21.2	2.53	.430
LRF1H022	50'57.42	3' 6.45	ST216183	65.	655	56	56.5	23	2.83	.449
LRF1H023	50'57.44	3' 5.16	ST231183	98.	549	62.4	54.7	24.1	2.60	.5
LRF1H023	50'57.43	3' 5.62	ST226184	68.	469	44.5	44.2	18.1	2.10	.370
LRF1H024	50'57.44	3' 4.17	ST243183	78.	361	57.4	53.2	22.7	2.02	.379
LRF1H024	50'57.45	3' 4.68	ST237183	83.	438	59	60.7	24.2	2.30	.439
LRF1H025	50'57.42	3' 3.21	ST254182	92.	488	61	52.7	23.2	2.42	.449
LRF1H025	50'57.43	3' 3.68	ST249183	86.	447	57	59.5	23.7	2.29	.430
LRF1H026	50'57.38	3' 2.36	ST264182	85.	450	42.5	49	18.5	2.06	.379
LRF1H026	50'57.41	3' 2.77	ST259182	89.	508	51.5	60.2	22.6	2.42	.430
LRF1H027	50'57.27	3' 1.5	ST274180	98.	390	48.5	55.9	21.2	2.01	.388
LRF1H027	50'57.33	3' 1.93	ST269181	88.	333	37.2	50.5	17.6	1.70	.319
LRF1H028	50'57.17	3' .59	ST285178	95	377	44.5	55.4	20.2	1.95	.370
LRF1H028	50'57.22	3' 1.05	ST280179	85.	399	36.2	56.4	18.2	1.89	.379
LRF1H029	50'57.12	2'59.67	ST296177	96.	398	52.7	54.5	21.7	2.07	.388
LRF1H029	50'57.13	3' .13	ST291177	90.	497	53.2	61.7	23.2	2.42	.449
LRF1H030	50'57.13	2'58.66	ST308177	106	342	35.5	40.9	15.5	1.62	.310
LRF1H030	50'57.12	2'59.18	ST302177	94.	364	37.5	59.7	19.2	1.86	.370
LRF1H031	50' 57.3	2'57.76	ST319180	94.	391	39.5	52.7	18.5	1.88	.349
LRF1H031	50'57.19	2'58.19	ST314178	99.	337	33	45.4	15.6	1.62	.310
LRF1H032	50'57.34	2'56.99	ST328181	92.	361	38.5	46.7	17.2	1.75	.330
LRF1H032	50'57.35	2'57.36	ST323181	83	276	40.5	47.7	17.7	1.57	.270
LRF1H033	50' 57.3	2'56.28	ST336180	85.	354	33	59.4	18.2	1.75	.340
LRF1H033	50'57.32	2'56.63	ST332181	88.	335	42.7	58.7	20.2	1.83	.349
LRF1H034	50' 57.3	2' 55.5	ST345179	88	310	38.5	33.2	14.8	1.51	.270
LRF1H034	50'57.29	2' 55.9	ST341180	81.	481	51.2	53.5	21.2	2.27	.400
LRF1H035	50'57.32	2'54.75	ST354180	95	407	56.5	59.9	23.7	2.20	.388
LRF1H035	50'57.31	2'55.12	ST350179	97.	417	34.4	52.2	17.2	1.89	.340
LRF1H036	50'57.35	2' 54	ST363180	80	487	39.7	60.7	20	2.23	.370
LRF1H036	50'57.33	2'54.38	ST359180	83	409	47.5	49.2	19.7	2.00	.379
LRF1H037	50'57.35	2'53.27	ST372180	101	500	43.7	45	18.1	2.20	.379
LRF1H037	50'57.36	2'53.63	ST367180	85	472	44.7	51.7	19.6	2.18	.370
LRF1H038	50'57.35	2'52.45	ST381180	81.	537	43.5	51.2	19.2	2.32	.400
LRF1H038	50'57.35	2'52.88	ST376180	112	574	46	50.5	19.6	2.47	.409
LRF1H039	50'57.33	2'51.65	ST391180	97.	431	37.7	36.7	15.1	1.87	.340
LRF1H039	50'57.34	2'52.04	ST386180	76.	491	40.2	53	18.7	2.19	.370
LRF1H040	50'57.31	2'50.81	ST401179	84.	568	36	43.7	16.1	2.27	.370
LRF1H040	50'57.32	2'51.24	ST396180	88.	521	32.4	36.2	13.8	2.04	.349
LRF1H041	50' 57.3	2'49.93	ST411179	102	522	38.7	40.7	16.2	2.17	.349
LRF1H041	50'57.31	2'50.37	ST406179	90.	492	40	42	16.7	2.09	.360
LRF1H042	50'57.25	2'48.77	ST425178	89	430	26	50.7	15.1	1.84	.340
LRF1H042	50'57.28	2' 49.4	ST418179	96.	489	32	45	15.5	2.01	.349
LRF1H043	50'57.21	2'47.78	ST437177	86.	504	40.7	55	19.2	2.24	.379
LRF1H043	50'57.23	2'48.23	ST431178	101	481	40.7	49.2	18.2	2.14	.409
LRF1H044	50'57.21	2'46.74	ST449177	100	539	47.2	52.5	20.2	2.40	.418
LRF1H044	50' 57.2	2'47.28	ST443177	102	377	35.5	42.9	15.8	1.75	.319
LRF1H045	50'57.22	2'45.92	ST459177	88.	585	70.4	56.4	26.2	2.80	.490
LRF1H045	50'57.21	2'46.29	ST454177	97.	681	49.7	68.8	23.7	2.93	.479

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1H046	50'57.23	2'45.16	ST468177	96.	400	39	43.5	16.7	1.86	.330
LRF1H046	50'57.22	2'45.55	ST463177	88.	475	54.5	54.5	22.2	2.31	.430
LRF1H047	50'57.19	2'44.48	ST476176	69.	330	28.2	47.7	15.1	1.57	.289
LRF1H047	50'57.22	2'44.81	ST472177	111	388	33.9	31.7	13.5	1.66	.270
LRF1H048	50'57.13	2'43.69	ST485175	102	563	45.2	51.7	19.6	2.43	.430
LRF1H048	50'57.16	2' 44.1	ST480176	95	507	49.9	46	19.7	2.28	.388
LRF1H049	50'57.15	2'42.89	ST495175	104	367	36	32.5	14.1	1.64	.310
LRF1H049	50'57.12	2'43.28	ST490175	84.	523	41.2	52.2	18.7	2.26	.400
LRF1H050	50'57.18	2'42.08	ST504176	101	494	41.2	47.5	18	2.17	.370
LRF1H050	50'57.17	2'42.49	ST499176	111	501	34.4	38.5	14.8	2.02	.360
LRF1H051	50'57.22	2' 41.3	ST513177	94.	627	40.2	53.7	18.7	2.54	.418
LRF1H051	50'57.19	2'41.69	ST509176	101	579	31.2	61	18.2	2.38	.418
LRF1H052	50'57.27	2'40.54	ST522178	99.	488	45.7	50	19.5	2.22	.388
LRF1H052	50'57.24	2'40.92	ST518177	99.	626	47.2	56	20.7	2.66	.430
LRF1H053	50'57.39	2'39.86	ST530180	94.	488	40	50.2	18.2	2.16	.388
LRF1H053	50'57.32	2'40.19	ST527179	98.	561	39.2	47.4	17.5	2.31	.400
LRF1H054	50'57.51	2' 39.1	ST539182	91.	563	43	48.7	18.6	2.39	.409
LRF1H054	50'57.45	2'39.49	ST535181	88.	487	46.4	60.2	21.5	2.28	.409
LRF1H055	50'57.14	2'38.97	ST541175	80.	517	48	54.5	20.7	2.34	.409
LRF1H055	50'57.41	2'38.93	ST541180	97.	559	37.7	55.5	18.7	2.34	.430
LRF1H056	50'57.48	2'37.73	ST556181	106	469	33.5	58.2	18.2	2.06	.388
LRF1H056	50'57.16	2'38.24	ST550176	92.	491	42	56.9	19.7	2.24	.400
LRF1H057	50'57.57	2'36.82	ST566183	100	476	36.7	53.7	18.1	2.09	.370
LRF1H057	50'57.62	2'37.25	ST561184	100	415	51.7	55	21.7	2.13	.379
LRF1H058	50'57.48	2'35.96	ST577180	89.	468	38.2	57.9	19.2	2.14	.379
LRF1H058	50'57.53	2'36.39	ST571182	98.	612	50.2	58.2	22	2.67	.449
LRF1H059	50' 57.4	2'35.17	ST586179	80.	584	42.9	62.5	21.1	2.52	.439
LRF1H059	50'57.44	2'35.56	ST581180	95.	613	43	64.4	21.2	2.63	.449
LRF1H060	50'57.25	3'34.43	SS884183	98.	442	41.7	46	17.7	2.00	.370
LRF1H060	50'57.34	3'34.79	SS879185	95.	515	52.7	56.7	22.2	2.42	.418
LRF1I001	50'56.23	3'25.89	SS985163	87.	457	26.6	47.5	14.6	1.88	.370
LRF1I001	50'56.16	3'25.76	SS986162	69.	473	28.2	40	13.6	1.89	.370
LRF1I002	50'56.12	3'25.54	SS989161	81	652	41	47.9	18	2.58	.439
LRF1I002	50'56.13	3'25.22	SS993162	83.	597	34	53.9	17.5	2.41	.439
LRF1I003	50'56.14	3'24.85	SS997162	82.	716	43	46.9	18.2	2.77	.479
LRF1I003	50'56.15	3'24.42	ST003161	84.	481	28.7	43.7	14.5	1.96	.370
LRF1I004	50'56.16	3'23.99	ST008161	92	526	32.7	50.4	16.5	2.17	.400
LRF1I004	50'56.17	3'23.58	ST013161	75.	530	29.7	51.7	16.1	2.16	.388
LRF1I005	50'56.18	3'23.17	ST018161	68.	647	31.2	52	16.5	2.5	.439
LRF1I005	50'56.19	3'22.76	ST023162	81.	538	26.2	57	16.2	2.18	.388
LRF1I006	50'56.21	3'22.32	ST028162	97.	519	37.7	43.7	16.5	2.17	.400
LRF1I006	50'56.26	3'21.86	ST033163	102	547	27.2	52.9	15.8	2.19	.388
LRF1I007	50'56.29	3' 21.4	ST039163	113	406	27	41.7	13.6	1.72	.330
LRF1I007	50' 56.3	3'20.95	ST044164	101	519	29.2	42	14.1	2.04	.379
LRF1I008	50'56.32	3'20.47	ST050164	99.	598	20.1	40.5	11.8	2.15	.379
LRF1I008	50'56.33	3'19.96	ST056164	112	422	23.5	33.2	11.3	1.64	.300
LRF1I009	50'56.34	3'19.46	ST062164	85.	531	20.6	42.7	12.3	1.99	.360
LRF1I009	50'56.36	3'18.97	ST068165	93.	498	20.2	42.2	12.1	1.87	.310
LRF1I010	50'56.38	3'18.39	ST074165	93.	484	22.5	24	9.43	1.75	.310
LRF1I010	50'56.39	3'17.74	ST082165	96	562	18.5	20.2	7.86	1.88	.319
LRF1I011	50'56.41	3'17.15	ST089166	107	764	19.7	26.7	9.31	2.5	.400
LRF1I011	50'56.42	3'16.62	ST095166	98.	901	27.2	44	14.1	3.07	.509
LRF1I012	50'56.44	3'16.12	ST101166	95.	924	32	48.5	16.1	3.24	.518
LRF1I012	50'56.47	3'15.63	ST107167	94.	427	10.3	27.6	7.38	1.48	.259
LRF1I013	50' 56.5	3'15.09	ST114167	95.	131	13	27.6	7.98	.708	.170
LRF1I013	50'56.53	3' 14.5	ST121167	110	202	14.1	27	8.10	.910	.188
LRF1I014	50'56.54	3'13.96	ST127167	92.	210	16.7	26.2	8.60	.958	.200
LRF1I014	50'56.54	3'13.47	ST133167	74.	184	22.5	27.2	10.1	.958	.218
LRF1I015	50'56.52	3'12.99	ST138167	94.	186	35	39.7	15.1	1.20	.270
LRF1I015	50'56.47	3'12.52	ST144166	97.	271	27.1	31.2	11.8	1.26	.259
LRF1I016	50'56.44	3'12.06	ST149165	93.	143	18.2	17.2	7.30	.730	.170
LRF1I016	50'56.43	3'11.59	ST155165	84.	284	33	37.5	14.3	1.41	.289

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1I017	50'56.42	3'11.13	ST160165	89.	363	30.2	55.7	17	1.74	.349
LRF1I017	50'56.43	3'10.66	ST166165	94	348	21	42.5	12.5	1.5	.310
LRF1I018	50'56.44	3'10.21	ST171165	93.	107	21.6	19.1	8.34	.680	.150
LRF1I018	50'56.45	3' 9.8	ST176165	91.	86.8	20.2	19.7	8.18	.620	.150
LRF1I019	50'56.47	3' 9.34	ST182166	88.	377	33.2	49.5	16.5	1.75	.340
LRF1I019	50' 56.5	3' 8.83	ST188166	96.	249	23.1	31.7	11	1.16	.259
LRF1I020	50'56.51	3' 8.34	ST194166	114	196	25.6	24.7	10.3	1	.218
LRF1I020	50'56.48	3' 7.78	ST200166	104	89.5	19.2	21	8.18	.620	.140
LRF1I021	50'56.45	3' 7.28	ST206165	109	67.5	21.2	17.2	7.96	.560	.140
LRF1I021	50' 56.4	3' 6.8	ST212164	79.	164	21.2	31.7	10.6	.920	.200
LRF1I022	50'56.34	3' 6.35	ST217163	91.	273	26	29.7	11.3	1.25	.238
LRF1I022	50'56.28	3' 5.92	ST222162	79.	263	35	25.2	12.5	1.29	.270
LRF1I023	50'56.23	3' 5.47	ST227161	104	162	20.2	29.7	10	.888	.230
LRF1I023	50'56.18	3' 5	ST233159	92	131	17.1	19	7.32	.689	.158
LRF1I024	50'56.13	3' 4.5	ST239159	94.	286	32.2	39	14.3	1.44	.300
LRF1I024	50'56.08	3' 3.97	ST245158	102	181	19.5	18	7.67	.850	.170
LRF1I025	50'56.06	3' 3.49	ST251157	84.	219	18.7	25	8.81	1	.209
LRF1I025	50'56.07	3' 3.04	ST256157	104	166	13.5	24.2	7.44	.778	.158
LRF1I026	50' 56.1	3' 2.53	ST262158	90.	235	28.1	30	11.8	1.16	.238
LRF1I026	50'56.13	3' 1.95	ST269159	85	167	22.7	25.2	9.75	.898	.188
LRF1I027	50'56.16	3' 1.41	ST275159	111	279	20.2	19.6	8.14	1.12	.230
LRF1I027	50'56.19	3' .91	ST281160	119	310	28.7	24.2	11	1.36	.270
LRF1I028	50'56.24	3' .43	ST287161	107	384	28.7	34	12.6	1.62	.310
LRF1I028	50'56.31	2'59.98	ST292162	91.	459	27.7	44.5	14.3	1.87	.370
LRF1I029	50'56.37	2'59.54	ST298163	89.	353	35.9	44.2	16.2	1.70	.360
LRF1I029	50'56.44	2'59.11	ST303164	99.	394	32.2	43	15.1	1.75	.349
LRF1I030	50'56.51	2'58.95	ST305166	96.	386	34.2	49.7	16.7	1.79	.370
LRF1I030	50'56.58	2'59.06	ST303167	83.	390	30.1	50.5	16	1.75	.340
LRF1I031	50'56.59	2'59.44	ST299167	91.	521	55.7	48.9	21.5	2.42	.430
LRF1I031	50'56.54	3' .08	ST291166	113	448	35.4	48.2	16.7	1.98	.388
LRF1I032	50'56.56	2'58.66	ST308166	97	492	33	54.5	17.2	2.10	.388
LRF1I032	50'56.59	2'58.13	ST314167	104	384	29.2	57.9	17.2	1.78	.349
LRF1I033	50'56.63	2'57.64	ST320168	106	438	31.2	43.5	15	1.87	.330
LRF1I033	50'56.68	2'57.19	ST325169	100	380	31.7	53.7	17	1.77	.349
LRF1I034	50'56.74	2'56.72	ST331170	102	332	31.2	45.7	15.3	1.60	.330
LRF1I034	50'56.79	2'56.24	ST337171	102	409	27.7	38.5	13.3	1.72	.310
LRF1I035	50'56.81	2'55.82	ST342171	101	397	35.4	37	14.6	1.75	.330
LRF1I035	50' 56.8	2'55.47	ST346170	102	372	28.7	50.5	15.6	1.71	.340
LRF1I036	50' 56.8	2'55.08	ST350170	91.	428	37.2	49.9	17.5	1.96	.349
LRF1I036	50'56.79	2'54.65	ST355170	90	485	24.2	52	14.8	1.97	.349
LRF1I037	50'56.78	2'54.25	ST360170	103	415	35.5	51.5	17.2	1.90	.349
LRF1I037	50'56.75	2'53.86	ST365169	99.	457	36.4	63.2	19.7	2.10	.388
LRF1I038	50'56.73	2'53.45	ST370169	98.	522	26.1	54.7	15.8	2.10	.360
LRF1I038	50'56.72	2'53.02	ST375168	96.	525	40.4	56.2	19.2	2.29	.388
LRF1I039	50'56.72	2'52.61	ST380168	105	521	32	53	16.7	2.17	.379
LRF1I039	50'56.73	2'52.22	ST384169	90.	559	44.2	57	20.2	2.45	.418
LRF1I040	50'56.73	2'51.84	ST389169	66.	653	46	46.2	18.7	2.65	.430
LRF1I040	50'56.74	2'51.47	ST393169	85.	707	33	45.5	15.8	2.64	.418
LRF1I041	50'56.75	2'51.05	ST398169	102	541	34.5	37	14.6	2.15	.360
LRF1I041	50'56.78	2'50.59	ST403170	114	549	31.7	46	15.6	2.20	.379
LRF1I042	50' 56.8	2'50.14	ST409170	91.	512	33.9	37.2	14.5	2.04	.330
LRF1I042	50'56.81	2'49.69	ST414170	79.	641	35.7	43.2	16	2.48	.400
LRF1I043	50'56.81	2'49.25	ST419170	87.	626	38.4	47.2	17.2	2.49	.388
LRF1I043	50' 56.8	2'48.82	ST424170	101	614	35.4	42.7	15.8	2.39	.400
LRF1I044	50'56.79	2'48.41	ST429170	104	404	30.2	36	13.3	1.71	.310
LRF1I044	50' 56.8	2'48.03	ST434170	89	471	22.7	43.7	13.1	1.86	.319
LRF1I045	50'56.81	2'47.67	ST438170	83.	527	48.5	46	19.2	2.32	.388
LRF1I045	50'56.84	2'47.32	ST442171	80.	576	66.3	62.5	26.2	2.77	.5
LRF1I046	50'56.85	2'46.93	ST447171	100	541	51.5	48.5	20.5	2.42	.400
LRF1I046	50'56.85	2'46.51	ST452171	95.	571	43.2	49.5	18.7	2.42	.400
LRF1I047	50'56.84	2'46.12	ST456171	85.	626	75	60.5	28	3.00	.550
LRF1I047	50'56.81	2'45.76	ST461169	92.	598	38.5	54.9	18.7	2.47	.418

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1I048	50' 56.8	2'45.41	ST465169	94	600	33.5	50.2	16.7	2.39	.400
LRF1I048	50'56.79	2'45.06	ST469169	105	611	25.6	43.2	13.6	2.25	.379
LRF1I049	50'56.78	2'44.73	ST473169	97.	568	35.2	51.7	17.2	2.31	.409
LRF1I049	50'56.77	3'44.42	SS765175	82	209	15.8	30.1	9.06	.970	.188
LRF1I050	50'56.77	3'44.08	SS769175	86.	473	39.4	52	18.2	2.10	.379
LRF1I050	50'56.78	3'43.71	SS774175	77	544	39	47	17.2	2.26	.370
LRF1I051	50'56.78	3'43.32	SS778175	101	545	32.4	52.5	16.7	2.24	.370
LRF1I051	50'56.79	3'42.89	SS784175	96.	522	32	49.7	16.2	2.15	.379
LRF1I052	50'56.79	3' 42.5	SS788175	91.	524	36.5	43	16.1	2.17	.388
LRF1I052	50'56.78	3'42.13	SS793175	91.	474	34.5	44	15.8	2	.360
LRF1I053	50'56.78	3'41.75	SS797175	85.	599	37	55	18.2	2.46	.409
LRF1I053	50'56.78	3'41.37	SS802175	98.	545	44.9	54.7	20.1	2.40	.430
LRF1I054	50'56.82	3'40.99	SS806175	104	552	33.4	46.9	16.1	2.23	.409
LRF1I054	50'56.91	3' 40.6	SS811177	100	363	22.7	34.5	11.3	1.5	.280
LRF1I055	50'57.16	3' 40	SS818182	95.	445	43	44.9	17.7	2.02	.379
LRF1I055	50'57.59	3' 39.2	SS827190	107	496	43.7	50.7	19.1	2.23	.388
LRF1I056	50' 57.8	3'38.58	SS835193	103	458	36	44.4	16.2	1.99	.360
LRF1I056	50' 57.8	3'38.13	SS840193	91.	579	38.5	46.7	17.2	2.34	.400
LRF1I057	50' 57.8	3'37.68	SS845193	93	570	37.2	42	16.1	2.27	.400
LRF1I057	50' 57.8	3'37.22	SS851193	92.	536	42	49.2	18.5	2.29	.400
LRF1I058	50' 57.8	3' 36.8	SS856193	87.	446	30.5	41.7	14.5	1.87	.330
LRF1I058	50' 57.8	3' 36.4	SS860193	92.	402	34.7	35	14.1	1.75	.310
LRF1I059	50' 57.8	3'36.05	SS865193	101	550	50.2	48	20.1	2.43	.418
LRF1I059	50' 57.8	3'35.75	SS868193	101	285	30	30.2	12.3	1.35	.238
LRF1I060	50' 57.8	3'35.35	SS873193	89.	336	42.2	32.5	15.5	1.62	.280
LRF1I060	50' 57.8	3'34.85	SS879193	88.	578	46.7	59.2	21.2	2.52	.449
LRF1J001	50'55.77	3'24.64	ST001154	102	509	30.6	48	15.6	2.07	.388
LRF1J001	50'55.74	3' 25.2	SS993154	85	598	30.1	41.5	14.3	2.26	.400
LRF1J002	50' 55.8	3'23.63	ST012154	88.	601	41.7	39	16.5	2.41	.409
LRF1J002	50'55.79	3'24.12	ST007154	101	508	34.5	45.5	16.1	2.10	.388
LRF1J003	50'55.84	3'22.63	ST024155	104	621	28	53	16	2.40	.418
LRF1J003	50'55.82	3'23.14	ST018155	88.	621	24.7	44.7	13.8	2.28	.400
LRF1J004	50'55.82	3'21.71	ST035155	99	477	28.5	51.2	15.8	2	.379
LRF1J004	50'55.84	3'22.15	ST030155	78.	573	38.2	41.7	16.2	2.29	.400
LRF1J005	50' 55.8	3'20.76	ST046154	90.	564	30.7	54.7	16.7	2.27	.400
LRF1J005	50'55.81	3'21.25	ST041155	91.	504	20.2	52.5	14.1	1.98	.360
LRF1J006	50'55.81	3'19.88	ST057155	95.	452	29.7	45	14.8	1.88	.349
LRF1J006	50' 55.8	3'20.31	ST052154	101	547	23	44.2	13.1	2.05	.379
LRF1J007	50'55.86	3'18.97	ST068156	97.	459	21.1	28.2	9.92	1.70	.289
LRF1J007	50'55.83	3'19.43	ST062155	100	408	31.7	26.7	12.1	1.66	.300
LRF1J008	50'55.95	3'18.09	ST078157	92.	631	21.6	30.5	10.3	2.19	.340
LRF1J008	50' 55.9	3'18.52	ST073156	85.	399	24.7	24.6	10.1	1.54	.270
LRF1J009	50'55.98	3'17.16	ST089158	101	562	35	35.9	14.5	2.20	.379
LRF1J009	50'55.97	3'17.63	ST083158	85	714	33.5	30.7	13.1	2.54	.409
LRF1J010	50'55.91	3'16.24	ST100156	91	610	34.7	45.2	16.1	2.39	.409
LRF1J010	50'55.96	3'16.69	ST095157	97.	597	23.1	47.5	13.8	2.24	.400
LRF1J011	50'55.76	3'15.28	ST111154	103	528	22	34.5	11.3	1.94	.340
LRF1J011	50'55.84	3'15.77	ST105155	69.	84.8	20.2	17.2	7.76	.588	.150
LRF1J012	50'55.62	3'14.41	ST122150	83	608	36.5	43.5	16.2	2.40	.409
LRF1J012	50'55.69	3'14.82	ST117151	89.	677	26.2	44.2	14	2.47	.409
LRF1J013	50'55.44	3'13.56	ST132147	105	250	23.1	22.7	9.34	1.12	.218
LRF1J013	50'55.53	3'13.99	ST127148	110	552	39.2	39	16	2.25	.379
LRF1J014	50'55.41	3'12.75	ST141146	78.	750	27.5	48.7	15.1	2.71	.439
LRF1J014	50' 55.4	3'13.14	ST137146	88.	421	33.7	38	14.5	1.79	.319
LRF1J015	50'55.49	3'11.95	ST151148	78	279	18.2	24.2	8.55	1.13	.209
LRF1J015	50'55.44	3'12.35	ST146147	88.	291	25.2	22	9.72	1.25	.218
LRF1J016	50'55.59	3'11.11	ST161150	88	355	29.2	37.2	13.3	1.58	.310
LRF1J016	50'55.54	3'11.54	ST156149	92.	290	27.2	27.2	11.1	1.29	.238
LRF1J017	50'55.72	3'10.31	ST170152	100	348	24.7	29.7	11	1.45	.280
LRF1J017	50'55.65	3' 10.7	ST165151	77.	186	23.7	24.2	9.76	.958	.188
LRF1J018	50'55.82	3' 9.5	ST180154	85	208	23.2	21	9.09	.990	.200
LRF1J018	50'55.78	3' 9.91	ST175153	93.	213	24.2	23.5	9.77	1.01	.200

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1J019	50'55.91	3' 8.7	ST189155	104	149	20.2	22.7	8.72	.810	.180
LRF1J019	50'55.87	3' 7.99	ST195154	70.	174	18.5	17.7	7.40	.819	.158
LRF1J020	50'55.97	3' 7.88	ST199157	135	219	27.5	33.2	12.3	1.14	.259
LRF1J020	50'55.94	3' 8.29	ST194156	108	217	18.2	16.6	7.17	.689	.158
LRF1J021	50' 56	3' 7.09	ST208157	117	286	32.2	41.4	14.8	1.45	.319
LRF1J021	50'55.99	3' 7.48	ST204157	149	244	26.7	29.2	11.3	1.19	.25
LRF1J022	50'56.07	3' 6.22	ST218158	101	233	35.9	34.7	14.3	1.28	.270
LRF1J022	50'56.02	3' 6.67	ST213157	100	216	36.4	33.2	14.3	1.25	.259
LRF1J023	50'56.14	3' 5.43	ST228160	83.	60.2	14.6	21	7.13	.490	.140
LRF1J023	50'56.11	3' 5.81	ST223159	80	287	33.2	39.9	14.8	1.46	.289
LRF1J024	50'56.19	3' 4.57	ST238160	97.	128	27.1	31.2	11.8	.888	.218
LRF1J024	50'56.17	3' 5.02	ST233159	134	126	16.1	26.2	8.42	.720	.170
LRF1J025	50'56.21	3' 3.75	ST248160	57.	217	37.5	44.2	16.5	1.35	.270
LRF1J025	50' 56.2	3' 4.14	ST243160	80.	168	25.7	31.6	11.6	.990	.230
LRF1J026	50'56.23	3' 2.96	ST257160	97.	246	30.2	26.6	11.6	1.22	.25
LRF1J026	50'56.22	3' 3.35	ST252160	75.	104	16.2	10.6	5.59	.550	.128
LRF1J027	50'56.24	3' 2.15	ST267161	92.	159	19.1	12.6	6.61	.75	.150
LRF1J027	50'56.24	3' 2.56	ST262161	146	163	20.2	16.7	7.65	.800	.158
LRF1J028	50' 56.2	3' 1.35	ST276160	98.	255	18.7	33.7	10.3	1.13	.238
LRF1J028	50'56.23	3' 1.74	ST272160	84.	187	17.2	16.7	6.98	.828	.158
LRF1J029	50'56.18	3' .4	ST287159	104	391	31.2	42.4	14.8	1.73	.340
LRF1J029	50'56.18	3' .9	ST281159	109	390	15.3	33.5	9.56	1.48	.280
LRF1J030	50'56.08	2'59.51	ST298158	100	436	43.7	49.7	18.7	2.04	.388
LRF1J030	50'56.15	2'59.94	ST293159	112	417	30.2	53	16.5	1.87	.388
LRF1J031	50'55.99	2'58.55	ST309156	109	276	38.4	40.5	16.1	1.49	.310
LRF1J031	50'56.03	2'59.05	ST303157	100	368	30.5	48.7	15.8	1.71	.310
LRF1J032	50'55.98	2'57.68	ST320156	101	388	30	49.2	15.6	1.75	.340
LRF1J032	50'55.97	2'58.09	ST315156	104	354	28	40	13.6	1.58	.310
LRF1J033	50'56.12	2'56.82	ST330158	108	393	29.6	50	15.8	1.75	.360
LRF1J033	50'56.03	2'57.25	ST325157	94.	391	36.7	55	18.2	1.87	.360
LRF1J034	50'56.34	2' 55.9	ST341162	102	430	45.2	54	20.1	2.07	.400
LRF1J034	50'56.23	2'56.37	ST335160	103	384	43.9	49.4	18.7	1.89	.379
LRF1J035	50'56.46	2'54.96	ST352164	96.	396	19.7	50.7	13.6	1.65	.319
LRF1J035	50'56.42	2'55.43	ST346163	98.	466	37.9	54.2	18.5	2.08	.388
LRF1J036	50'56.44	2'54.03	ST363163	91	515	35.2	39.5	15.1	2.08	.360
LRF1J036	50'56.47	2' 59.2	ST357164	88.	446	30.2	40.5	14.1	1.86	.340
LRF1J037	50'56.35	2'53.13	ST373162	93.	558	29.6	45.9	15	2.20	.379
LRF1J037	50'56.39	2'53.58	ST368162	89.	534	26.1	46.5	14.3	2.07	.379
LRF1J038	50'56.22	2'52.26	ST384159	105	613	38.4	61.4	19.7	2.54	.439
LRF1J038	50'56.29	2'52.69	ST379160	111	435	32	46.7	15.6	1.87	.360
LRF1J039	50'56.05	2'51.51	ST393156	88.	630	26.1	49.9	15	2.38	.409
LRF1J039	50'56.14	2'51.87	ST388158	79.	601	31.7	58.9	17.7	2.43	.439
LRF1J040	50'55.92	2'50.75	ST402154	86.	694	64.4	50.9	23.7	3	.540
LRF1J040	50'55.97	2'51.14	ST397155	90.	530	41.7	44.4	17.5	2.25	.409
LRF1J041	50'55.85	2'49.98	ST411152	93.	604	38.9	41	16.2	2.40	.409
LRF1J041	50'55.88	2'50.36	ST406153	102	551	46.5	36.4	17.2	2.29	.409
LRF1J042	50'55.85	2' 49.3	ST419152	83.	557	24	43.2	13.3	2.09	.370
LRF1J042	50'55.84	2'49.63	ST415152	111	565	36	49.2	17.1	2.29	.409
LRF1J043	50'55.97	2'48.57	ST427155	90.	731	32	42	14.8	2.67	.418
LRF1J043	50' 55.9	2'48.94	ST423153	77	614	33	41.7	15.1	2.34	.409
LRF1J044	50'56.09	2'47.78	ST437157	100	526	29.7	38.4	13.6	2.04	.360
LRF1J044	50'56.03	2'48.18	ST432156	81.	492	23.7	33.5	11.5	1.86	.319
LRF1J045	50' 56.2	2'46.92	ST447159	95	591	35.5	46.7	16.5	2.34	.409
LRF1J045	50'56.15	2'47.36	ST442158	93	595	31.2	42.4	14.8	2.27	.400
LRF1J046	50'56.18	2'45.95	ST458158	100	483	30.5	41.9	14.5	1.97	.370
LRF1J046	50'56.21	2'46.45	ST452159	85.	538	33	45	15.6	2.18	.388
LRF1J047	50'56.15	2'44.99	ST470157	103	530	29.2	51.7	16	2.16	.388
LRF1J047	50'56.16	2'45.46	ST464157	99.	522	25	34.5	11.8	1.96	.340
LRF1J048	50'56.17	2'44.11	ST480157	91.	572	30.7	36.2	13.5	2.18	.379
LRF1J048	50'56.16	2'44.54	ST475157	69.	695	21.7	65.9	16.7	2.60	.439
LRF1J049	50'56.23	2'43.31	ST490158	98.	510	25.2	50.7	14.8	2.03	.379
LRF1J049	50'56.19	2' 43.7	ST485158	95.	464	36	50.2	17.2	2.03	.400

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1J050	50'56.21	2' 42.5	ST499158	91.	545	22.7	40.5	12.5	2.02	.360
LRF1J050	50'56.24	2'42.91	ST494159	112	554	32	45.7	15.6	2.21	.409
LRF1J051	50'56.15	2' 41.7	ST509157	96	522	37.7	33.5	14.6	2.09	.370
LRF1J051	50'56.18	2' 42.1	ST504157	101	397	21.7	34.7	11.1	1.58	.300
LRF1J052	50'56.21	2'40.84	ST519158	109	538	31.7	45.2	15.3	2.16	.388
LRF1J052	50'56.16	2'41.28	ST514157	101	395	24.6	32.7	11.5	1.60	.300
LRF1J053	50'56.32	2'39.93	ST530160	91.	485	27.2	41	13.6	1.94	.340
LRF1J053	50'56.26	2'40.39	ST524159	90.	536	28.1	42	14	2.07	.349
LRF1J054	50'56.34	2'39.11	ST539160	103	413	22.5	37.2	11.8	1.63	.300
LRF1J054	50'56.35	2' 39.5	ST535161	97.	476	24.2	48.2	14.3	1.90	.370
LRF1J055	50'56.29	2'38.31	ST549159	156	233	18.2	23.1	8.35	1	.218
LRF1J055	50'56.32	2'38.71	ST544160	131	345	21.2	28.2	9.96	1.37	.25
LRF1J056	50'56.24	2' 37.4	ST560159	125	483	26.1	37.5	12.6	1.87	.360
LRF1J056	50'56.26	2'37.87	ST554159	217	258	22.6	28.2	10.1	1.15	.230
LRF1J057	50'56.23	2'36.56	ST569158	109	414	30.2	34.7	13.1	1.73	.319
LRF1J057	50'56.23	2'36.96	ST565158	112	377	28.2	39.5	13.6	1.62	.319
LRF1J058	50'56.25	2'35.81	ST578158	95.	444	29.2	46.2	15.1	1.87	.360
LRF1J058	50'56.24	2'36.18	ST574158	113	433	24.7	43.4	13.5	1.76	.360
LRF1J059	50'56.07	2'35.01	ST588154	81.	452	34.5	50.2	17	2	.388
LRF1J059	50' 56.2	2'35.42	ST583157	91.	509	44.2	39.9	17.2	2.19	.400
LRF1J060	50'56.25	3'34.05	SS888164	94.	379	34.2	52.7	17.2	1.79	.379
LRF1J060	50'56.28	3'34.52	SS883165	91.	482	36.5	63	19.7	2.19	.409
LRF1K001	50'55.26	3'25.12	SS994145	91.	446	34.5	35	14.1	1.87	.340
LRF1K001	50'55.24	3'24.55	ST002144	105	421	33.5	43.7	15.5	1.85	.360
LRF1K002	50'55.25	3' 23.9	ST009144	96.	384	32.4	40.4	14.6	1.71	.340
LRF1K002	50'55.28	3'23.16	ST018145	93	532	29.5	30.2	12.1	2	.330
LRF1K003	50'55.32	3'22.53	ST025146	111	482	21.7	30.7	10.5	1.77	.319
LRF1K003	50'55.38	3'22.01	ST032147	102	405	21.5	28.6	10.1	1.54	.300
LRF1K004	50'55.43	3' 21.5	ST038148	110	458	34.5	36.5	14.5	1.89	.340
LRF1K004	50'55.48	3' 21	ST044148	124	512	14.5	39.9	10.5	1.85	.349
LRF1K005	50' 55.5	3' 20.5	ST050149	108	450	26.2	39.2	13	1.79	.360
LRF1K005	50'55.49	3'19.99	ST056149	97	486	25	32.4	11.6	1.85	.319
LRF1K006	50'55.51	3' 19.5	ST061149	96.	727	24.7	31.2	11.3	2.5	.388
LRF1K006	50'55.56	3'19.03	ST067150	106	455	23.7	28.2	10.5	1.72	.300
LRF1K007	50' 55.6	3'18.58	ST072151	99.	440	12.3	27.2	7.75	1.52	.270
LRF1K007	50'55.65	3'18.14	ST077152	95.	345	15.6	20.7	7.32	1.25	.230
LRF1K008	50' 55.7	3'17.72	ST082153	118	870	14.5	40.2	10.6	2.81	.449
LRF1K008	50'55.75	3'17.31	ST087153	108	542	22	35.2	11.3	1.99	.349
LRF1K009	50'55.78	3'16.91	ST092154	87	651	30.5	47.5	15.5	2.47	.430
LRF1K009	50'55.79	3' 16.5	ST097154	92.	656	36	44	16.2	2.51	.430
LRF1K010	50'55.73	3' 16.2	ST100153	95	658	44.2	34.5	16.2	2.54	.430
LRF1K010	50' 55.6	3'16.01	ST103151	71.	155	9.97	19.2	5.78	.680	.150
LRF1K011	50'55.44	3'15.89	ST104148	101	893	28.6	57.5	16.7	3.18	.540
LRF1K011	50'55.25	3'15.85	ST105144	90.	1022	35.2	46.7	16.5	3.51	.550
LRF1K012	50'55.16	3'15.61	ST107143	100	851	31.7	44	15.1	3	.509
LRF1K012	50'55.15	3'15.17	ST113142	104	603	32.9	38.7	14.5	2.29	.400
LRF1K013	50'55.14	3' 14.7	ST118141	110	684	30.5	40.5	14.3	2.5	.449
LRF1K013	50'55.15	3'14.19	ST124141	104	654	34.2	53	17.2	2.54	.469
LRF1K014	50'55.16	3'13.68	ST218142	96.	637	24.7	38	12.6	2.28	.400
LRF1K014	50'55.18	3'13.16	ST136142	82	903	28.1	43.5	14.3	3.08	.490
LRF1K015	50' 55.2	3' 12.7	ST142142	101	854	26.7	46.7	14.6	2.98	.490
LRF1K015	50'55.22	3'12.31	ST146143	97.	729	30.7	45	15.1	2.67	.439
LRF1K016	50'55.25	3'11.87	ST152143	106	520	26.7	44.5	14.1	2.03	.370
LRF1K016	50'55.28	3'11.39	ST157144	103	669	34.2	41	15.1	2.50	.418
LRF1K017	50'55.35	3'10.89	ST163145	108	705	23.2	41.5	12.8	2.49	.430
LRF1K017	50'55.45	3'10.36	ST170147	112	368	21.1	29.2	10.1	1.46	.310
LRF1K018	50'55.53	3'10.01	ST177148	117	289	29.6	31.7	12.5	1.36	.270
LRF1K018	50'55.59	3' 9.31	ST184147	110	383	29.1	31.6	12.3	1.61	.310
LRF1K019	50'55.63	3' 8.85	ST189146	118	239	17.2	26.2	8.71	1.02	.230
LRF1K019	50'55.65	3' 8.21	ST193146	109	70.5	15.1	13.6	5.94	.469	.108
LRF1K020	50'55.65	3' 7.84	ST199151	109	231	26.7	25.7	10.6	1.12	.230
LRF1K020	50'55.63	3' 7.31	ST206150	114	321	28	34.4	12.6	1.45	.289

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1K021	50'55.57	3' 6.82	ST211149	106	251	34.4	40.9	15.1	1.37	.300
LRF1K021	50'55.46	3' 6.35	ST217147	99.	245	27.2	34.2	12.3	1.23	.259
LRF1K022	50'55.38	3' 6.03	ST221146	99.	185	38.5	35.7	15.1	1.21	.270
LRF1K022	50'55.35	3' 5.86	ST223145	72	183	27.6	31.6	12	1.03	.238
LRF1K023	50'55.37	3' 5.6	ST226145	90.	286	25	41.5	13.1	1.37	.289
LRF1K023	50'55.44	3' 5.27	ST230146	114	218	22.2	27.2	10	1.03	.238
LRF1K024	50'55.54	3' 4.99	ST233148	87.	189	24	28.2	10.6	1	.218
LRF1K024	50'55.66	3' 4.77	ST236150	66.	268	34.4	34	14	1.37	.280
LRF1K025	50'55.72	3' 4.42	ST240151	101	229	17.6	26.7	8.85	1.00	.209
LRF1K025	50'55.72	3' 3.93	ST246151	81.	188	28.1	33.5	12.5	1.08	.209
LRF1K026	50'55.71	3' 3.5	ST251151	85.	241	37.5	32	14.3	1.32	.270
LRF1K026	50' 55.7	3' 3.13	ST255151	101	151	28.2	26.2	11.1	.930	.200
LRF1K027	50' 55.7	3' 2.75	ST260151	103	266	30.6	34	13.1	1.33	.280
LRF1K027	50'55.71	3' 2.34	ST264151	103	324	32.5	36	13.8	1.50	.310
LRF1K028	50'55.75	3' 1.95	ST269151	75.	188	18	26.7	8.93	.910	.200
LRF1K028	50'55.82	3' 1.58	ST273153	92	278	33.5	35	13.8	1.38	.270
LRF1K029	50'55.87	3' 1.16	ST278154	108	192	16.7	15	6.51	.828	.170
LRF1K029	50'55.92	3' .7	ST284155	97.	290	18.7	17.1	7.36	1.12	.209
LRF1K030	50'55.95	3' .22	ST289155	95.	348	38.2	36.5	15.3	1.64	.310
LRF1K030	50'55.97	2'59.71	ST296156	97.	484	43.5	60	20.7	2.25	.449
LRF1K031	50'55.91	2' 59.3	ST300154	115	447	41.9	46.7	18	2.02	.388
LRF1K031	50'55.77	2'59.01	ST304152	113	421	41.7	41.9	17.1	1.94	.370
LRF1K032	50'55.67	2'58.61	ST309150	89.	332	39	45	17	1.66	.340
LRF1K032	50' 55.6	2' 58.1	ST315149	105	497	35.7	54.2	17.7	2.16	.409
LRF1K033	50'55.57	2'57.64	ST320148	102	381	40.9	36.9	16	1.76	.360
LRF1K033	50'55.59	2'57.21	ST325149	93.	413	40.2	44.5	17.2	1.89	.360
LRF1K034	50'55.61	2' 56.8	ST330149	75.	456	36.7	40	15.6	1.96	.349
LRF1K034	50'55.63	2'56.41	ST335149	97.	319	32.5	39.2	14.5	1.51	.310
LRF1K035	50'55.62	2' 56	ST339149	116	341	30.7	37.2	13.8	1.54	.330
LRF1K035	50'55.58	2'55.59	ST344148	98.	457	32.5	44	15.3	1.94	.360
LRF1K036	50'55.53	2'55.12	ST350146	116	431	28.1	45	14.5	1.82	.400
LRF1K036	50'55.46	2'54.59	ST356145	128	350	25.2	37.7	12.6	1.50	.310
LRF1K037	50'55.43	2'54.12	ST362145	115	474	25.2	34.7	12	1.84	.330
LRF1K037	50'55.45	2'53.71	ST367145	112	433	32.5	39.5	14.6	1.84	.360
LRF1K038	50'55.48	2'53.31	ST371145	109	545	35.9	29.2	13.5	2.10	.370
LRF1K038	50'55.51	2' 52.9	ST376146	85	536	31.2	46	15.5	2.16	.370
LRF1K039	50'55.52	2'52.53	ST380146	98.	570	31.2	46.5	15.5	2.25	.409
LRF1K039	50' 55.5	2' 52.2	ST384146	103	493	28.7	42.2	14.1	1.98	.360
LRF1K040	50' 55.5	2'51.84	ST389146	85.	610	32.2	33.4	13.3	2.26	.388
LRF1K040	50' 55.5	2'51.46	ST393146	100	573	34.5	48.5	16.6	2.29	.409
LRF1K041	50'55.53	2'51.04	ST398146	111	496	40.7	46.5	17.7	2.16	.400
LRF1K041	50'55.56	2'50.58	ST404147	103	540	41	43.4	17.2	2.25	.409
LRF1K042	50' 55.6	2'50.13	ST409148	94.	522	48.5	36.4	17.6	2.25	.409
LRF1K042	50'55.65	2' 49.7	ST414149	96	653	31.6	42.4	14.8	2.45	.409
LRF1K043	50'55.67	2'49.24	ST419149	102	573	28.2	44.5	14.5	2.21	.379
LRF1K043	50'55.67	2'48.76	ST425149	110	531	25.2	33.5	11.8	1.99	.340
LRF1K044	50'55.66	2'48.27	ST431149	104	456	31.5	41.2	14.6	1.89	.349
LRF1K044	50'55.63	2'47.76	ST437148	117	489	22.6	46	13.5	1.91	.370
LRF1K045	50'55.62	2'47.27	ST443148	113	505	25.2	45.2	14	2	.370
LRF1K045	50'55.61	2' 46.8	ST448148	100	415	21.7	40.7	12.3	1.66	.330
LRF1K046	50'55.61	2'46.34	ST454148	102	319	27.1	36.4	12.6	1.45	.310
LRF1K046	50'55.62	2'45.91	ST459147	92.	385	32	28.1	12.3	1.62	.319
LRF1K047	50'55.61	2' 45.5	ST464147	89.	565	25	51.7	15.1	2.20	.400
LRF1K047	50'55.58	2'45.11	ST468146	84.	547	31.2	36.9	13.8	2.10	.360
LRF1K048	50'55.57	2'44.68	ST473146	109	501	23.7	45.2	13.6	1.97	.360
LRF1K048	50'55.59	2'44.21	ST479147	75.	523	40.7	46	17.6	2.23	.400
LRF1K049	50'55.61	2'43.77	ST484147	86.	520	36.7	54.2	18.2	2.24	.418
LRF1K049	50'55.62	2'43.34	ST489147	107	471	32.7	46.2	15.8	2	.388
LRF1K050	50'55.64	2'42.93	ST494147	75.	595	33.7	40.5	15	2.29	.400
LRF1K050	50'55.66	2'42.54	ST499148	83.	573	27.7	34	12.5	2.13	.370
LRF1K051	50'55.68	2'42.11	ST504148	96.	536	20.2	46	13	2.01	.370
LRF1K051	50' 55.7	2'41.66	ST509149	93	539	32.7	35.5	13.8	2.09	.370

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1K052	50' 55.7	2'41.22	ST514149	99.	572	28.6	37.4	13.3	2.16	.349
LRF1K052	50'55.69	2'40.79	ST519148	102	517	32.7	40.7	14.8	2.06	.370
LRF1K053	50'55.67	2'40.36	ST525148	100	500	21.7	39.2	12.1	1.88	.319
LRF1K053	50'55.65	2'39.94	ST529148	98	611	26.7	36	12.6	2.24	.370
LRF1K054	50'55.61	2'39.49	ST535147	94	480	27.5	28	11.3	1.83	.310
LRF1K054	50'55.55	2'39.01	ST540146	98	518	18.1	33	10.1	1.86	.340
LRF1K055	50'55.54	2'38.58	ST546146	99.	384	20	29.5	9.89	1.49	.280
LRF1K055	50'55.59	2'38.21	ST550147	94.	484	38.2	32.2	14.5	2	.349
LRF1K056	50'55.62	2'37.86	ST554147	98.	487	19.2	36.5	11	1.79	.340
LRF1K056	50'55.63	2'37.53	ST558147	98.	477	22.6	40.2	12.5	1.85	.330
LRF1K057	50'55.64	2'37.19	ST562147	86.	529	22.5	39	12.1	1.98	.360
LRF1K057	50'55.63	2'36.85	ST566147	98.	528	45.7	42.9	18.1	2.26	.388
LRF1K058	50'55.62	2'36.54	ST570147	83.	439	22.1	45.7	13.3	1.76	.330
LRF1K058	50'55.61	2'36.25	ST573147	93.	382	21.7	39.7	12.1	1.58	.310
LRF1K059	50' 55.6	2'35.91	ST577146	89.	509	35.9	54.4	18	2.20	.379
LRF1K059	50' 55.6	2'35.52	ST582146	100	342	34.5	50.2	16.7	1.69	.340
LRF1K060	50' 55.6	2'35.25	ST585146	128	223	25	22	9.64	1.04	.209
LRF1K060	50' 55.6	2'35.08	ST587146	89.	296	26	35.7	12.3	1.37	.270
LRF1L001	50'54.59	3'23.75	ST011132	93.	570	28	41.2	13.8	2.17	.360
LRF1L001	50'54.57	3'24.19	ST006132	98.	589	19.2	45.2	12.6	2.16	.360
LRF1L002	50'54.64	3'23.02	ST020133	90.	457	23.7	39.7	12.6	1.79	.310
LRF1L002	50'54.61	3'23.36	ST016132	87.	470	25.1	34.5	12	1.82	.319
LRF1L003	50'54.69	3'22.28	ST028134	86.	549	20.7	46.2	13.1	2.05	.370
LRF1L003	50'54.66	3'22.66	ST024133	92	593	28.1	44.5	14.5	2.25	.388
LRF1L004	50'54.72	3'21.58	ST037134	102	493	16	38.5	10.6	1.79	.310
LRF1L004	50'54.71	3'21.92	ST033134	91.	495	31.7	39.9	14.5	2	.370
LRF1L005	50'54.71	3'21.05	ST043134	95	476	28.2	43.7	14.3	1.94	.330
LRF1L005	50'54.72	3'21.29	ST040134	93.	415	45.5	44.7	18.2	1.98	.379
LRF1L006	50' 54.7	3'20.56	ST049134	101	371	26	39.2	13	1.60	.310
LRF1L006	50'54.71	3'20.81	ST046134	107	387	28.2	36.9	13.1	1.63	.300
LRF1L007	50' 54.7	3'19.95	ST056134	95.	464	14.1	29.5	8.56	1.62	.280
LRF1L007	50' 54.7	3'20.28	ST052134	92.	370	14.5	29.7	8.68	1.37	.238
LRF1L008	50'54.72	3'19.34	ST063134	82.	351	20.6	26.2	9.43	1.37	.238
LRF1L008	50'54.71	3'19.63	ST060134	81.	384	16.1	27.2	8.60	1.41	.238
LRF1L009	50'54.71	3'18.68	ST071134	94.	569	18.7	32.9	10.3	2	.340
LRF1L009	50'54.72	3'19.02	ST067134	84.	505	13.1	26.2	7.76	1.72	.259
LRF1L010	50'54.75	3'17.97	ST079135	88.	547	24.2	31.2	11.1	2	.330
LRF1L010	50'54.72	3'18.33	ST075134	101	687	27.2	43.2	14	2.5	.418
LRF1L011	50'54.75	3'17.08	ST090135	101	597	40	40.5	16.2	2.39	.400
LRF1L011	50'54.75	3'17.55	ST084135	110	516	25.1	45	13.8	2.00	.370
LRF1L012	50'54.83	3'16.22	ST100136	97.	465	33.7	44	15.6	1.98	.370
LRF1L012	50'54.77	3'16.63	ST095135	101	644	35	38.5	14.8	2.44	.400
LRF1L013	50'54.97	3'15.39	ST110139	91.	513	29.2	38.7	13.6	2.00	.360
LRF1L013	50' 54.9	3' 15.8	ST105138	92.	515	30	53.7	16.6	2.14	.388
LRF1L014	50'55.09	3' 14.5	ST121140	109	829	31.7	49	16.1	2.98	.469
LRF1L014	50'55.03	3'14.95	ST115139	108	534	21.2	37.7	11.6	1.97	.360
LRF1L015	50'55.17	3'13.44	ST133142	93.	909	38.9	45.7	17.1	3.25	.509
LRF1L015	50'55.14	3'13.99	ST127141	107	660	24.2	43.4	13.3	2.39	.430
LRF1L016	50' 55.3	3' 12.5	ST144144	109	779	30.5	46.5	15.3	2.79	.479
LRF1L016	50'55.23	3'12.94	ST139143	88	858	24.1	56.7	15.8	3.00	.479
LRF1L017	50'55.32	3'11.64	ST154145	93.	725	29.2	48.2	15.3	2.66	.418
LRF1L017	50'55.33	3'12.07	ST149145	83.	537	27.7	39	13.3	2.05	.360
LRF1L018	50'55.26	3'10.26	ST171143	101	181	16.2	30.7	9.31	.910	.188
LRF1L018	50' 55.3	3'11.03	ST162144	118	273	23.2	29.7	10.6	1.23	.25
LRF1L019	50'55.21	3'10.01	ST169144	84.	359	32.2	47.2	15.8	1.69	.330
LRF1L019	50'55.23	3' 9.68	ST178143	82.	350	36	47.5	16.7	1.71	.319
LRF1L020	50'55.15	3' 8.33	ST194141	100	265	38	52.4	18.1	1.52	.330
LRF1L020	50'55.18	3' 7.99	ST199140	107	303	20.7	46	13.1	1.38	.300
LRF1L021	50'55.03	3' 7.46	ST204139	95.	321	39	42.5	16.6	1.62	.319
LRF1L021	50' 55.1	3' 7.87	ST199140	104	295	37	48.2	17.2	1.58	.330
LRF1L022	50'54.91	3' 6.55	ST215137	92.	268	38.7	47.5	17.2	1.50	.300
LRF1L022	50'54.97	3' 7.02	ST209138	96.	304	32.9	46.2	15.8	1.52	.330

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1L023	50'54.83	3' 5.52	ST227135	111	141	27.7	31.2	12	.930	.209
LRF1L023	50'54.86	3' 6.05	ST221136	119	173	21.2	25.2	9.35	.898	.188
LRF1L024	50' 54.8	3' 4.63	ST237134	78.	189	17.5	30.5	9.52	.939	.188
LRF1L024	50'54.81	3' 5.05	ST232134	82	165	19.2	34.2	10.6	.920	.209
LRF1L025	50'54.81	3' 3.85	ST247134	103	469	33.9	47	16.2	2	.379
LRF1L025	50' 54.8	3' 4.23	ST242134	82.	209	15.1	25.6	8.09	.930	.188
LRF1L026	50'54.89	3' 3.14	ST255136	84.	290	25.7	27.6	10.8	1.27	.238
LRF1L026	50'54.85	3' 3.48	ST251135	84.	290	38.7	47	17.2	1.58	.310
LRF1L027	50'55.07	3' 2.45	ST263139	96.	161	15.8	27.2	8.55	.819	.188
LRF1L027	50'54.97	3' 2.8	ST259137	108	280	30.7	34.5	13.3	1.37	.280
LRF1L028	50'55.11	3' 1.45	ST275140	87.	163	17.7	27.5	9.05	.850	.188
LRF1L028	50'55.12	3' 2	ST268140	87.	209	27.1	24.7	10.6	1.07	.200
LRF1L029	50'54.98	3' .61	ST285137	101	242	21.7	33.5	11	1.13	.218
LRF1L029	50'55.07	3' .98	ST281139	105	211	18.2	24.7	8.64	.970	.188
LRF1L030	50'54.89	2'59.85	ST294136	97	402	33.5	46.2	16	1.82	.360
LRF1L030	50'54.92	3' .23	ST289136	101	237	23.7	25.2	9.93	1.10	.230
LRF1L031	50'54.89	2'59.09	ST303136	82.	282	29	32.9	12.5	1.34	.259
LRF1L031	50'54.88	2'59.47	ST298135	103	331	23.7	44.2	13.3	1.49	.300
LRF1L032	50'55.07	2'58.08	ST315139	86.	551	48.9	68	23.2	2.54	.469
LRF1L032	50'54.96	2'58.63	ST308137	90	337	29.1	43.2	14.3	1.57	.330
LRF1L033	50'55.16	2'57.34	ST324141	98.	422	33	51.2	16.7	1.88	.379
LRF1L033	50'55.14	2'57.65	ST320140	90.	421	40.5	51.4	18.5	1.99	.379
LRF1L034	50'55.16	2'56.06	ST339141	105	525	34	46	16.1	2.16	.400
LRF1L034	50'55.17	2'56.81	ST330141	97.	340	21.7	41.4	12.3	1.48	.310
LRF1L035	50'55.12	2'54.42	ST358139	69.	653	41.2	61.5	20.5	2.70	.449
LRF1L035	50'55.14	2'55.26	ST348139	101	644	53.2	61	23.1	2.80	.479
LRF1L036	50' 55.1	2'54.08	ST362138	82	531	65.5	77.4	28.7	2.75	.518
LRF1L036	50'55.11	2'54.03	ST363139	107	424	55.2	54.7	22.2	2.19	.439
LRF1L037	50'55.11	2'53.54	ST369139	94.	451	35	48.4	16.7	1.98	.370
LRF1L037	50' 55.1	2'53.92	ST364138	89.	478	73.0	84.5	31.7	2.75	.560
LRF1L038	50'55.06	2'52.63	ST379138	85	529	39.2	38	15.8	2.18	.379
LRF1L038	50'55.09	2'53.11	ST374138	84.	439	30.7	49.4	16	1.89	.340
LRF1L039	50' 55	2'51.75	ST390137	89.	574	35	40.4	15.3	2.25	.400
LRF1L039	50'55.03	2'52.18	ST385137	84.	605	35.5	44.9	16.2	2.39	.400
LRF1L040	50'54.97	2'50.84	ST400136	92.	543	48.2	51.5	20.2	2.41	.439
LRF1L040	50'54.98	2'51.31	ST395136	103	563	48	39.9	18.1	2.38	.430
LRF1L041	50'54.93	2'49.83	ST412135	90.	561	26.2	46.7	14.5	2.17	.370
LRF1L041	50'54.95	2'50.35	ST406136	92.	557	22	53.5	14.6	2.16	.370
LRF1L042	50'54.99	2'48.97	ST423136	95.	497	38.2	36.5	15.3	2.05	.370
LRF1L042	50'54.94	2'49.37	ST418135	98.	537	19.7	37.7	11.3	1.96	.349
LRF1L043	50'55.03	2' 48.1	ST433137	92	470	31.7	49.2	16.2	2	.388
LRF1L043	50'55.02	2'48.55	ST428137	91.	451	32	44.5	15.3	1.90	.349
LRF1L044	50'55.06	2'47.27	ST443138	103	471	25	53	15.3	1.95	.360
LRF1L044	50'55.04	2'47.68	ST438137	94	422	28	46	14.6	1.79	.360
LRF1L045	50'55.03	2' 46.4	ST453137	91	419	17.7	43	11.8	1.64	.300
LRF1L045	50'55.06	2'46.85	ST448138	95.	411	37.7	35.7	15	1.82	.319
LRF1L046	50'55.01	2'45.66	ST462136	86.	319	35.7	28.7	13.3	1.49	.280
LRF1L046	50'55.02	2'46.01	ST458137	99.	479	37.2	51.2	17.7	2.09	.388
LRF1L047	50'55.04	2'44.91	ST471136	97.	510	23.2	48.7	14.1	2	.360
LRF1L047	50'55.01	2' 45.3	ST466136	87.	510	38.2	51.9	18.1	2.21	.400
LRF1L048	50'55.07	2' 44	ST481137	98.	504	26.2	42.5	13.6	1.98	.370
LRF1L048	50'55.06	2'44.47	ST476137	100	457	26.1	58.5	16.5	1.97	.379
LRF1L049	50'55.06	2'43.18	ST491137	121	487	23.7	39	12.5	1.87	.349
LRF1L049	50'55.07	2'43.57	ST487137	114	495	31.2	49.5	16.1	2.05	.370
LRF1L050	50'55.03	2'42.37	ST501136	138	427	18.6	31	9.81	1.60	.300
LRF1L050	50'55.04	2'42.78	ST496136	103	553	22.2	39.5	12.1	2.03	.349
LRF1L051	50'54.98	2'41.58	ST510135	80.	520	22.2	48.9	14	2.01	.349
LRF1L051	50'55.01	2'41.97	ST505136	85.	344	12.5	39	9.93	1.36	.238
LRF1L052	50'54.95	2'40.79	ST519135	89.	373	18.2	35.2	10.5	1.48	.289
LRF1L052	50'54.96	2'41.19	ST515135	83.	458	17.2	50.5	13.1	1.79	.340
LRF1L053	50'54.99	2'39.96	ST529135	97.	438	32.2	33.2	13.3	1.79	.319
LRF1L053	50'54.96	2'40.38	ST524135	95.	409	26	39.7	13.1	1.70	.300

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1L054	50'55.07	2'39.14	ST539137	89.	426	44	47.7	18.7	2.00	.379
LRF1L054	50'55.03	2'39.54	ST534136	87.	420	24.7	40.2	12.8	1.72	.319
LRF1L055	50'55.11	2'38.42	ST547138	87	545	28.7	46.2	15	2.16	.388
LRF1L055	50' 55.1	2'38.77	ST543137	87.	448	63.2	48.7	23.1	2.29	.418
LRF1L056	50'55.14	2'37.66	ST556138	98	364	29	27.1	11.5	1.51	.280
LRF1L056	50'55.13	2'38.05	ST552138	92.	618	38	46.7	17.1	2.47	.409
LRF1L057	50'55.17	2' 36.6	ST569139	88.	325	27.7	43	14.1	1.50	.289
LRF1L057	50'55.15	2'37.17	ST562138	103	305	32	30.1	12.6	1.40	.259
LRF1L058	50'55.05	2'34.95	ST589136	96.	370	27.6	40.4	13.6	1.62	.310
LRF1L058	50'55.14	2'35.86	ST578137	95.	372	36.4	36.5	14.8	1.70	.319
LRF1L059	50'55.22	3' 34.6	SS882146	90.	445	30.7	53.4	16.7	1.95	.340
LRF1L059	50'55.23	3'34.53	SS882146	74.	367	41.5	46.7	17.7	1.82	.330
LRF1L060	50'55.18	3'33.93	SS890144	99.	461	25.5	38.2	12.6	1.83	.340
LRF1L060	50' 55.2	3' 34.4	SS884145	89.	450	44.2	49	18.7	2.07	.360
LRF1M001	50'54.14	3'24.94	SS996125	103	465	25.7	35.2	12.3	1.82	.319
LRF1M001	50'54.17	3'24.37	ST004124	107	584	15.6	34.5	9.81	2.00	.349
LRF1M002	50'54.18	3'23.86	ST010124	101	504	30	40.9	14.1	2.00	.379
LRF1M002	50'54.19	3'23.41	ST015125	97.	584	30.2	48.7	15.6	2.27	.409
LRF1M003	50'54.19	3'23.02	ST020125	103	510	26.7	34.9	12.3	1.95	.340
LRF1M003	50' 54.2	3'22.67	ST024125	104	495	23.7	38.7	12.3	1.88	.349
LRF1M004	50' 54.2	3'22.29	ST028125	103	580	38.7	44.2	16.7	2.33	.418
LRF1M004	50'54.19	3'21.88	ST033125	98.	480	22.2	44	13	1.87	.360
LRF1M005	50'54.19	3'21.47	ST038125	94	618	26	42.5	13.6	2.27	.409
LRF1M005	50'54.18	3'21.06	ST043124	97.	443	27.1	40.4	13.5	1.79	.340
LRF1M006	50'54.17	3'20.62	ST048124	109	372	28.7	35.2	12.8	1.60	.319
LRF1M006	50'54.17	3'20.14	ST054124	109	379	19.6	24.5	8.88	1.44	.270
LRF1M007	50'54.17	3' 19.7	ST059124	107	406	19.7	28.7	9.72	1.53	.270
LRF1M007	50'54.17	3'19.29	ST064124	111	431	26.2	27.5	11	1.66	.300
LRF1M008	50'54.17	3'18.86	ST069124	93.	526	27.2	31	11.8	1.98	.349
LRF1M008	50'54.17	3'18.43	ST074124	94.	821	25.1	39.7	12.8	2.80	.449
LRF1M009	50'54.17	3'17.97	ST079124	96.	717	25	34.2	11.8	2.49	.409
LRF1M009	50'54.16	3'17.47	ST085124	104	790	19.7	33.5	10.6	2.63	.430
LRF1M010	50'54.17	3'16.98	ST091124	102	1000	36.7	46.7	16.7	3.49	.518
LRF1M010	50' 54.2	3'16.47	ST097125	100	975	33.7	53.5	17.2	3.44	.560
LRF1M011	50'54.21	3' 16	ST103125	91.	420	26.5	35.5	12.5	1.71	.300
LRF1M011	50'54.22	3'15.55	ST108125	85	81.5	23.6	12.1	7.53	.588	.150
LRF1M012	50'54.22	3'15.08	ST114125	97.	239	25.6	31.2	11.5	1.15	.259
LRF1M012	50'54.21	3'14.59	ST119124	111	198	23.7	37.2	12.1	1.08	.238
LRF1M013	50'54.22	3'14.15	ST125124	99.	252	15.8	21.6	7.53	1.01	.200
LRF1M013	50'54.25	3'13.77	ST217125	108	463	34.2	42.7	15.5	1.97	.349
LRF1M014	50'54.29	3'13.37	ST134125	75.	306	27.7	34	12.5	1.38	.280
LRF1M014	50'54.32	3'12.94	ST139126	100	271	22.7	27.2	10.1	1.20	.25
LRF1M015	50'54.37	3' 12.5	ST144127	117	442	35	32.2	13.8	1.85	.330
LRF1M015	50'54.45	3'12.07	ST149128	72.	341	31	22.7	11.1	1.46	.259
LRF1M016	50'54.53	3'11.64	ST154129	80	303	52.4	47.5	20.5	1.76	.349
LRF1M016	50' 54.6	3'11.21	ST159131	99.	265	44.7	43	18	1.53	.319
LRF1M017	50'54.71	3' 10.8	ST164133	91.	238	31.2	38.7	14.1	1.27	.270
LRF1M017	50'54.88	3'10.39	ST169136	105	138	23.6	19.2	8.84	.790	.170
LRF1M018	50'54.86	3' 9.99	ST174136	118	149	22.1	16.6	8.02	.778	.158
LRF1M018	50'54.65	3' 9.99	ST176133	86.	163	21.5	22.2	8.89	.850	.188
LRF1M019	50'54.47	3' 9.33	ST182133	82.	432	31.5	53.7	16.7	1.91	.360
LRF1M019	50'54.34	3' 8.94	ST188130	84.	419	41.9	44.7	17.6	1.95	.360
LRF1M020	50'54.27	3' 8.59	ST190129	78.	303	38.2	56.2	18.7	1.66	.340
LRF1M020	50'54.28	3' 8.09	ST196125	85.	334	31	48.4	15.8	1.62	.340
LRF1M021	50' 54.3	3' 7.52	ST203126	90.	354	35.2	43.2	15.8	1.69	.349
LRF1M021	50'54.33	3' 7.01	ST209126	110	293	26.2	36	12.5	1.36	.289
LRF1M022	50'54.35	3' 6.53	ST215127	112	167	29	25.7	11.1	.980	.218
LRF1M022	50'54.36	3' 6.06	ST220127	77.	202	16.2	22	7.69	.898	.170
LRF1M023	50'54.36	3' 5.6	ST226127	81.	213	28.1	37.7	13.1	1.16	.259
LRF1M023	50'54.35	3' 5.15	ST231126	80	180	25.5	39.4	12.8	1.07	.238
LRF1M024	50'54.34	3' 4.73	ST236125	88.	149	28.5	23.7	10.8	.910	.200
LRF1M024	50'54.33	3' 4.34	ST241125	94.	115	20.2	22	8.56	.708	.158

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1M025	50'54.32	3' 3.94	ST245125	102	183	18.7	30	9.68	.930	.180
LRF1M025	50'54.32	3' 3.51	ST251125	88	111	14.3	17.2	6.38	.588	.119
LRF1M026	50'54.32	3' 3.1	ST255125	119	214	15.5	21.7	7.48	.920	.200
LRF1M026	50'54.33	3' 2.69	ST260125	104	227	17.1	27.5	8.85	1	.230
LRF1M027	50'54.34	3' 2.3	ST265125	88.	210	22.2	18.7	8.43	.970	.188
LRF1M027	50'54.35	3' 1.94	ST269126	87.	216	35.7	43.7	16.1	1.32	.289
LRF1M028	50'54.36	3' 1.56	ST274126	110	264	18.7	37.7	11.1	1.21	.270
LRF1M028	50'54.38	3' 1.15	ST278126	113	133	23.7	22.7	9.52	.800	.180
LRF1M029	50'54.39	3' .8	ST283126	99.	198	19.1	23.1	8.52	.930	.188
LRF1M029	50'54.39	3' .51	ST286126	69.	324	27	43.2	14	1.5	.289
LRF1M030	50'54.38	3' .22	ST289126	74.	188	34.2	46	16.1	1.24	.280
LRF1M030	50'54.37	2'59.93	ST293126	98.	210	28.2	34.2	12.6	1.13	.25
LRF1M031	50'54.35	2'59.55	ST297126	104	219	18.7	36	10.8	1.07	.218
LRF1M031	50'54.32	2'59.09	ST303125	95.	211	13.8	26	7.88	.920	.200
LRF1M032	50' 54.3	2'58.68	ST308125	104	189	16.6	24.2	8.14	.879	.180
LRF1M032	50'54.27	2'58.33	ST312124	95.	152	15.6	19.1	6.98	.730	.150
LRF1M033	50'54.25	2'57.91	ST317124	104	210	22.2	25.2	9.67	1.00	.200
LRF1M033	50'54.25	2'57.44	ST322124	94.	271	20.6	28.7	9.88	1.19	.25
LRF1M034	50'54.23	2'57.02	ST327123	126	333	29.7	36.7	13.3	1.50	.319
LRF1M034	50'54.22	2'56.65	ST332123	111	330	17	39.2	11	1.37	.289
LRF1M035	50'54.21	2'56.27	ST336123	107	268	25.7	37.4	12.6	1.28	.280
LRF1M035	50' 54.2	2'55.89	ST341123	99.	305	25.2	32.2	11.5	1.35	.280
LRF1M036	50'54.21	2'55.52	ST345122	96.	386	22.7	41.4	12.6	1.61	.330
LRF1M036	50'54.23	2'55.17	ST349122	101	338	28.6	39.7	13.6	1.52	.300
LRF1M037	50'54.24	2'54.74	ST354123	90.	398	38.4	41.9	16.2	1.83	.349
LRF1M037	50'54.24	2'54.25	ST360123	93.	329	33.5	42.4	15.3	1.59	.349
LRF1M038	50'54.26	2'53.78	ST366123	89.	343	27.7	39.7	13.5	1.52	.330
LRF1M038	50'54.29	2'53.32	ST371123	95.	357	31	40.2	14.3	1.62	.319
LRF1M039	50'54.23	2'53.05	ST374122	97	323	32.2	44.9	15.3	1.58	.319
LRF1M039	50'54.08	2'52.95	ST376120	82.	492	29.5	52.4	16.2	2.04	.370
LRF1M040	50'53.83	2'52.24	ST384115	96.	511	24	40	12.6	1.96	.330
LRF1M040	50'53.49	2'51.71	ST389109	89.	518	38.5	41.7	16.2	2.16	.400
LRF1M041	50'53.61	2'51.25	ST395111	98.	527	37	41.2	15.8	2.17	.388
LRF1M041	50'54.18	2'50.84	ST400121	92.	291	27.7	32	12.1	1.35	.270
LRF1M042	50'54.47	2'50.41	ST406127	88.	505	33	56.5	17.7	2.17	.388
LRF1M042	50'54.48	2'49.94	ST411127	94.	507	40	43.5	17	2.16	.379
LRF1M043	50'54.48	2'49.53	ST416127	96.	415	36.4	28.2	13.3	1.75	.310
LRF1M043	50'54.47	2'49.17	ST420127	81.	408	32	41.2	14.6	1.76	.330
LRF1M044	50'54.45	2'48.78	ST425126	93.	523	36.2	42.2	15.8	2.15	.388
LRF1M044	50'54.43	2'48.36	ST430126	85.	514	22.1	49.4	14	2	.379
LRF1M045	50'54.41	2'47.94	ST435126	94.	500	31.5	44.5	15.1	2.03	.388
LRF1M045	50'54.38	2'47.52	ST440125	97.	332	27.7	34.2	12.5	1.47	.300
LRF1M046	50'54.36	2'47.07	ST445125	95.	457	28.2	40.2	13.6	1.86	.340
LRF1M046	50'54.33	2'46.58	ST451124	97.	503	33.7	52.2	17.1	2.14	.388
LRF1M047	50'54.37	2'46.03	ST457125	117	352	31.5	47.5	15.8	1.65	.340
LRF1M047	50'54.46	2' 45.4	ST465126	105	346	21.7	38.9	12	1.48	.300
LRF1M048	50'54.51	2'44.87	ST471127	110	374	26.7	46.2	14.3	1.64	.349
LRF1M048	50'54.53	2'44.44	ST476127	98.	510	38.4	47.4	17.2	2.18	.409
LRF1M049	50'54.55	2' 44	ST481127	103	452	29.2	35.7	13.1	1.83	.349
LRF1M049	50'54.56	2'43.57	ST487127	110	425	23.2	43.7	13.1	1.74	.349
LRF1M050	50'54.57	2'43.07	ST492128	109	474	31.6	46.5	15.6	1.99	.360
LRF1M050	50'54.58	2' 42.5	ST499128	94.	497	26.7	48.2	14.8	2	.379
LRF1M051	50' 54.6	2'42.02	ST505128	104	491	19.7	47.2	13.1	1.89	.370
LRF1M051	50'54.63	2'41.63	ST509129	89.	384	36.5	47.7	16.7	1.79	.360
LRF1M052	50'54.65	2'41.26	ST514129	81.	506	26.7	46.7	14.6	2.01	.379
LRF1M052	50'54.65	2'40.92	ST518129	70	441	23.6	47.2	13.8	1.82	.330
LRF1M053	50'54.65	2'40.56	ST522129	87.	397	26.2	49.7	15	1.75	.349
LRF1M053	50'54.65	2' 40.2	ST526129	96.	402	26.5	43.9	14	1.72	.330
LRF1M054	50'54.66	2'39.76	ST532129	89.	371	26.7	45.5	14.3	1.63	.330
LRF1M054	50'54.67	2'39.25	ST538129	94.	343	31	36.9	13.6	1.54	.310
LRF1M055	50'54.68	2'38.68	ST544129	90.	526	30.5	43.2	14.8	2.08	.349
LRF1M055	50'54.67	2'38.03	ST552129	89.	515	31.2	62.5	18.2	2.21	.400

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1M056	50'54.66	2'37.49	ST558129	94.	483	29.6	53	16.2	2.02	.400
LRF1M056	50'54.65	2'37.07	ST563129	100	358	19	43	12.1	1.5	.289
LRF1M057	50'54.65	2'36.71	ST568129	72.	335	28.2	33.7	12.6	1.49	.300
LRF1M057	50'54.66	2'36.41	ST571129	71.	442	24.6	44.2	13.6	1.79	.340
LRF1M058	50'54.65	2'36.07	ST575128	83.	366	26.2	44.7	14.1	1.62	.319
LRF1M058	50'54.62	2'35.71	ST580128	91.	396	28.6	50.2	15.6	1.75	.340
LRF1M059	50' 54.6	2'35.39	ST583127	86.	386	27.7	49.7	15.3	1.73	.300
LRF1M059	50' 54.6	2'35.13	ST586127	84.	400	34.7	42.2	15.5	1.78	.330
LRF1M060	50' 54.6	3'34.76	SS880134	93.	351	30.6	41.2	14.3	1.61	.330
LRF1M060	50'54.61	3' 34.4	SS884134	87.	352	34.5	39.5	15	1.63	.310
LRF1N001	50'54.01	2'34.29	ST596116	91.	266	62.9	59.5	25	1.87	.379
LRF1N001	50'54.04	2'34.86	ST590117	98.	333	62.4	53.5	23.7	2.00	.379
LRF1N002	50'54.06	2'35.38	ST583117	93.	236	50.9	63.4	23.1	1.69	.360
LRF1N002	50'54.07	2'35.83	ST578117	86.	459	68.8	80	30.1	2.63	.5
LRF1N003	50'54.08	2'36.26	ST573119	91.	479	74.3	72	29.7	2.69	.479
LRF1N003	50'54.09	2'36.67	ST568119	84.	288	61.5	48.2	22.7	1.85	.360
LRF1N004	50' 54.1	2'37.11	ST563119	104	349	60.2	57.4	24.1	2.05	.400
LRF1N004	50' 54.1	2'37.58	ST557119	86.	411	67	62	26.5	2.33	.430
LRF1N005	50'54.11	2'37.99	ST553119	94.	341	73.9	54	26.5	2.18	.400
LRF1N005	50'54.12	2'38.34	ST548119	94.	373	61.9	58.9	24.7	2.16	.409
LRF1N006	50'54.14	2' 38.7	ST544120	91.	253	57	66	24.7	1.83	.360
LRF1N006	50'54.15	2'39.08	ST540120	87.	240	66.3	75	28.6	1.97	.388
LRF1N007	50'54.14	2'39.45	ST535120	101	470	49.2	67	23.2	2.31	.439
LRF1N007	50'54.13	2' 39.8	ST531120	88.	520	63.7	55.5	24.5	2.54	.460
LRF1N008	50' 54.1	2'40.21	ST526119	94.	516	63.2	67	26.5	2.60	.469
LRF1N008	50'54.06	2'40.68	ST521118	85	351	59.5	50.5	22.7	2.00	.360
LRF1N009	50'54.03	2'41.12	ST516118	91.	410	48	53.5	20.6	2.04	.379
LRF1N009	50' 54	2'41.51	ST511117	95.	455	62	48.4	22.7	2.29	.400
LRF1N010	50' 54	2'41.92	ST506117	99	349	41.2	40.2	16.6	1.72	.310
LRF1N010	50' 54	2'42.35	ST501117	104	419	62.7	50.7	23.2	2.24	.379
LRF1N011	50'54.03	2'42.72	ST497118	84.	412	66	51.7	24.2	2.25	.409
LRF1N011	50'54.06	2'43.05	ST493118	102	509	75.8	62.4	28.5	2.72	.469
LRF1N012	50'54.06	2'43.17	ST491118	100	428	70.5	65.5	27.7	2.46	.469
LRF1N012	50'54.02	2'43.07	ST492117	101	347	70.0	56.2	26.1	2.17	.418
LRF1N013	50'54.01	2'43.46	ST488117	91.	337	68.0	57.2	25.7	2.13	.400
LRF1N013	50'54.02	2'44.31	ST478117	87	431	67.5	58.5	25.7	2.39	.430
LRF1N014	50'54.03	2'44.93	ST470118	92.	438	64.3	57.4	25	2.34	.430
LRF1N014	50'54.04	2'45.31	ST466118	99.	363	65.0	53.5	24.5	2.14	.400
LRF1N015	50'54.04	2' 45.7	ST461118	82.	360	63	56	24.2	2.10	.388
LRF1N015	50'54.01	2'46.11	ST456118	105	314	79	48	26.6	2.13	.400
LRF1N016	50' 54	2'46.48	ST452118	96.	358	70.0	57.7	26.2	2.21	.430
LRF1N016	50' 54	2'46.81	ST448118	82.	516	81.4	65	30.2	2.81	.509
LRF1N017	50'54.02	2'47.16	ST444118	77.	565	93.5	66.5	33.2	3.09	.550
LRF1N017	50'54.05	2'47.51	ST440119	95.	553	66	66	26.7	2.75	.509
LRF1N018	50'54.08	2'47.86	ST436120	104	452	61.7	39.5	21.1	2.24	.409
LRF1N018	50'54.12	2'48.21	ST432120	95	537	68.5	51.7	24.7	2.64	.479
LRF1N019	50'54.15	2'48.56	ST427121	99.	441	75.9	49.5	26.2	2.45	.439
LRF1N019	50'54.16	2'48.93	ST423121	101	508	55.4	49.9	21.6	2.39	.430
LRF1N020	50'54.18	2'49.33	ST418121	95	488	64	49.5	23.5	2.44	.418
LRF1N020	50'54.19	2'49.76	ST413122	99	586	49	52.5	20.6	2.53	.430
LRF1N021	50'54.21	2'50.21	ST408122	93.	573	59.9	47.7	22.2	2.59	.439
LRF1N021	50'54.22	2' 50.7	ST402122	92.	538	58.7	51.5	22.7	2.51	.439
LRF1N022	50'54.23	2' 51.2	ST396122	97.	417	59.5	37.7	20.2	2.08	.388
LRF1N022	50'54.24	2'51.71	ST390123	94.	386	50.7	42.5	19.2	1.95	.360
LRF1N023	50'54.24	2'52.22	ST384123	105	469	49.5	54.5	21.1	2.25	.418
LRF1N023	50'54.23	2'52.72	ST378122	108	458	60.2	41.5	21.2	2.25	.418
LRF1N024	50'54.24	2'53.18	ST373123	101	390	63.7	56.2	24.7	2.21	.400
LRF1N024	50'54.25	2' 53.6	ST368123	102	310	59.7	53.5	23.2	1.91	.388
LRF1N025	50'54.27	2'54.04	ST363123	91.	354	63.7	56	24.6	2.09	.400
LRF1N025	50' 54.3	2' 59.2	ST357124	89	421	66.3	48.7	23.7	2.26	.400
LRF1N026	50'54.33	2'54.95	ST352124	111	404	73.3	55.2	26.6	2.34	.439
LRF1N026	50'54.37	2'55.38	ST347125	84	362	68	64.0	27	2.24	.430

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1N027	50'54.43	2'55.76	ST342127	98	360	67.4	62.9	26.7	2.22	.469
LRF1N027	50' 59.2	2'56.09	ST338128	99.	223	66.5	46.5	23.5	1.72	.360
LRF1N028	50'54.57	2'56.43	ST334218	94	330	84.0	65.8	31	2.34	.460
LRF1N028	50'54.63	2'56.78	ST330131	101	397	103	64.4	35	2.75	.518
LRF1N029	50'54.65	2'57.14	ST326131	85.	370	72.5	59.5	27.2	2.27	.430
LRF1N029	50'54.64	2'57.53	ST321131	90	376	63.7	61.7	25.6	2.21	.439
LRF1N030	50'54.51	2' 58	ST316217	91.	331	64.0	53.7	24.2	2.02	.400
LRF1N030	50'54.28	2'58.55	ST309124	92.	155	52	33.2	17.7	1.25	.259
LRF1N031	50'54.15	2'59.03	ST304122	69.	200	60	38.9	20.7	1.51	.300
LRF1N031	50'54.12	2'59.45	ST299121	98.	179	47	46.5	19.1	1.37	.280
LRF1N032	50'54.08	2'59.91	ST293121	90.	154	49.2	46.5	19.6	1.33	.300
LRF1N032	50'54.04	3' .41	ST287120	75.	150	53.2	47	20.6	1.37	.300
LRF1N033	50'54.01	3' .88	ST282119	99.	177	58	52.2	22.6	1.51	.340
LRF1N033	50'53.98	3' 1.31	ST277119	106	230	64.4	41.4	22.1	1.66	.360
LRF1N034	50'53.98	3' 1.75	ST271119	82.	238	58.9	39.7	20.5	1.62	.319
LRF1N034	50'54.02	3' 2.18	ST266119	74.	207	72.4	41.5	23.7	1.71	.360
LRF1N035	50'54.05	3' 2.62	ST261120	94.	90.3	40	31.5	14.8	.939	.238
LRF1N035	50'54.08	3' 3.05	ST256121	102	213	61.4	40.5	21.2	1.59	.319
LRF1N036	50'54.12	3' 3.43	ST252121	90.	232	73	31.5	22.2	1.72	.330
LRF1N036	50'54.19	3' 3.76	ST248123	90	310	68.8	43.2	23.2	1.96	.370
LRF1N037	50'54.22	3' 4.13	ST243123	81.	169	56.5	34.5	19.1	1.37	.280
LRF1N037	50'54.23	3' 4.52	ST239123	75.	86.5	46.5	27.2	15.5	.980	.209
LRF1N038	50'54.18	3' 4.94	ST234122	92.	119	39.9	38.5	16	1.07	.238
LRF1N038	50'54.07	3' 5.4	ST228121	102	191	58.5	38.2	20.2	1.48	.310
LRF1N039	50'54.02	3' 5.85	ST223120	81.	173	68	44.5	23.5	1.59	.319
LRF1N039	50'54.01	3' 6.28	ST218120	95.	144	34.7	30.2	13.3	1.00	.238
LRF1N040	50' 54	3' 6.69	ST213120	75.	220	57.9	35.7	19.6	1.51	.289
LRF1N040	50'53.99	3' 7.06	ST209120	78	175	71.4	50.7	25.2	1.66	.349
LRF1N041	50'54.01	3' 7.48	ST204120	95.	140	61.5	35.2	20.2	1.35	.289
LRF1N041	50'54.05	3' 7.95	ST198121	96	254	80.8	55.5	28.2	2.02	.430
LRF1N042	50'54.11	3' 8.46	ST192122	93	347	80.3	61	29.2	2.30	.449
LRF1N042	50'54.18	3' 9.01	ST185123	95	266	74	58.5	27.2	2	.409
LRF1N043	50'54.22	3' 9.58	ST179124	98.	251	50	36	17.7	1.51	.289
LRF1N043	50'54.25	3'10.18	ST172125	116	257	42.5	36.5	16.2	1.46	.280
LRF1N044	50'54.29	3'10.75	ST165125	88.	262	57.2	28.2	18.1	1.59	.289
LRF1N044	50'54.34	3'11.29	ST159126	84.	167	36.9	30.7	13.8	1.11	.238
LRF1N045	50'54.41	3'11.81	ST152128	86.	232	52.5	34.5	18.2	1.5	.289
LRF1N045	50'54.5	3'12.32	ST146217	91.	233	53.5	35.5	18.6	1.50	.280
LRF1N046	50'54.56	3'12.84	ST140218	100	406	72	59.5	27.1	2.38	.439
LRF1N046	50'54.59	3'13.37	ST134131	81.	869	92.4	63.2	32.4	3.91	.600
LRF1N047	50'54.61	3'13.89	ST128131	107	484	94.9	65.4	33.2	2.90	.518
LRF1N047	50'54.63	3'14.38	ST122132	80.	405	70.4	45.2	24.2	2.25	.388
LRF1N048	50' 54.6	3'14.86	ST116131	95	257	57.4	41.2	20.5	1.65	.319
LRF1N048	50'54.53	3'15.33	ST111131	82.	515	72.0	50	25.2	2.59	.439
LRF1N049	50'54.43	3'15.78	ST105217	108	419	73	40.4	23.7	2.27	.409
LRF1N049	50'54.31	3'16.21	ST100127	111	352	58.4	39.2	20.2	1.91	.370
LRF1N050	50'54.19	3'16.65	ST095125	114	815	90	71.5	33.4	3.77	.638
LRF1N050	50'54.06	3' 17.1	ST090122	88.	974	88.9	59.7	31	4.13	.629
LRF1N051	50'53.73	3' 16.3	ST099116	140	1086	42.7	55.4	19.7	3.84	.638
LRF1N051	50'53.74	3'16.81	ST093116	152	962	43.7	56.2	20.1	3.52	.620
LRF1N052	50'53.77	3'17.31	ST087117	141	907	28.5	43.7	14.3	3.10	.540
LRF1N052	50' 53.8	3'17.78	ST082117	146	1128	34.2	45.9	16.1	3.79	.610
LRF1N053	50'53.83	3'18.22	ST076118	120	1049	31.1	40.5	14.3	3.50	.550
LRF1N053	50'53.84	3'18.63	ST072118	116	908	32	39	14.3	3.13	.490
LRF1N054	50'53.81	3'19.03	ST067118	137	1101	25.2	41.9	13.3	3.58	.550
LRF1N054	50'53.74	3'19.42	ST062116	145	725	17.1	35	10.3	2.43	.418
LRF1N055	50'53.68	3'19.81	ST058115	116	579	29.2	28.2	11.8	2.10	.340
LRF1N055	50'53.63	3'20.19	ST053114	141	790	23.1	37	12	2.69	.449
LRF1N056	50' 53.6	3'20.58	ST049114	136	830	30.7	52.7	16.5	3	.5
LRF1N056	50'53.58	3'20.97	ST043113	139	753	27.7	56.5	16.6	2.76	.479
LRF1N057	50'53.56	3'21.37	ST038113	115	456	34.2	44.7	15.8	1.96	.360
LRF1N057	50'53.54	3'21.76	ST034113	139	505	21.6	42.4	12.6	1.91	.379

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1N058	50'53.52	3'22.15	ST029112	127	320	24.7	31.2	11.3	1.37	.270
LRF1N058	50'53.49	3'22.52	ST025112	140	421	36.7	31.2	14	1.78	.319
LRF1N059	50'53.45	3'22.93	ST020111	136	610	29	52.7	16.1	2.38	.449
LRF1N059	50' 53.4	3'23.36	ST015110	124	768	42.7	51.7	19.1	2.96	.518
LRF1N060	50'53.35	3'23.76	ST010109	155	624	23.6	51.2	14.6	2.32	.449
LRF1N060	50' 53.3	3'24.13	ST006108	143	607	25.1	44.5	13.8	2.25	.400
LRF1O001	50'52.24	3'25.42	SS989090	99	396	59.5	59.5	24.2	2.20	.439
LRF1O001	50'52.27	3'24.95	SS995090	106	441	55	55.7	22.6	2.25	.418
LRF1O002	50'52.32	3'24.51	ST001090	96.	493	44.7	56.7	20.2	2.25	.418
LRF1O002	50'52.37	3'24.12	ST006091	100	408	66.5	49	24	2.24	.430
LRF1O003	50'52.43	3'23.76	ST010092	91.	444	64.0	48.9	23.2	2.29	.430
LRF1O003	50'52.48	3'23.43	ST014093	91	516	72.9	44	24.5	2.56	.449
LRF1O004	50'52.54	3'23.08	ST018094	100	529	66.5	39.5	22.2	2.5	.449
LRF1O004	50'52.61	3'22.71	ST022095	101	453	70.8	43	23.7	2.35	.430
LRF1O005	50'52.72	3'22.33	ST027097	116	437	72.9	44.5	24.6	2.35	.449
LRF1O005	50'52.88	3'21.94	ST031100	122	479	80.5	43.9	26.2	2.55	.490
LRF1O006	50'53.03	3'21.56	ST036103	98.	616	72.9	48.5	25.2	2.88	.509
LRF1O006	50'53.16	3'21.19	ST040106	100	624	69.3	47.9	24.2	2.84	.5
LRF1O007	50'53.31	3'20.87	ST044108	105	762	79	64	29.5	3.46	.588
LRF1O007	50'53.48	3' 20.6	ST047111	93.	704	76.4	53.5	27	3.20	.550
LRF1O008	50'53.65	3'20.33	ST052115	99.	715	76	59	27.7	3.25	.560
LRF1O008	50'53.82	3'20.08	ST054118	100	577	62.2	51.4	23.2	2.67	.469
LRF1O009	50' 54	3' 19.7	ST059121	106	596	57.7	49.5	22.1	2.66	.460
LRF1O009	50' 54.2	3'19.21	ST065125	104	552	57.5	50.5	22.2	2.52	.469
LRF1O010	50'54.38	3'18.78	ST070128	103	528	66.4	45.7	23.2	2.53	.439
LRF1O010	50'54.53	3'18.43	ST074131	106	674	51	41	19	2.73	.460
LRF1O011	50'54.65	3'18.04	ST079133	99.	623	78.5	36.7	24.5	2.89	.479
LRF1O011	50'54.73	3'17.61	ST084135	99.	597	58	47.7	21.7	2.65	.460
LRF1O012	50'54.82	3'17.16	ST089136	99.	619	57	41.5	20.5	2.66	.449
LRF1O012	50'54.91	3' 16.7	ST094138	107	481	56.2	41.2	20.2	2.25	.409
LRF1O013	50'54.95	3'16.22	ST100139	106	595	44.2	42	17.7	2.44	.449
LRF1O013	50'54.96	3'15.76	ST106139	110	467	73.4	51.5	26	2.5	.460
LRF1O014	50'54.92	3'15.26	ST112138	108	560	62.2	47.2	22.6	2.57	.449
LRF1O014	50'54.82	3'14.75	ST118135	104	607	60.2	49.5	22.7	2.72	.469
LRF1O015	50'54.74	3'14.31	ST123134	91.	637	54.9	51	21.7	2.75	.460
LRF1O015	50'54.66	3'13.94	ST127132	113	725	65.5	54.4	24.7	3.13	.528
LRF1O016	50'54.61	3'13.51	ST132131	119	594	43.4	46	18.2	2.46	.439
LRF1O016	50' 54.6	3'13.02	ST138131	132	893	45.4	60.7	21.2	3.40	.569
LRF1O017	50'54.55	3'12.55	ST144130	104	500	59	45.5	21.6	2.38	.430
LRF1O017	50'54.46	3' 12.1	ST149129	92.	324	44.4	31.2	15.6	1.62	.300
LRF1O018	50' 54.4	3'11.67	ST154127	97.	222	34.2	34.4	14	1.25	.259
LRF1O018	50'54.37	3'11.26	ST159127	89	230	40.9	34.5	15.5	1.35	.270
LRF1O019	50'54.32	3'10.77	ST165126	110	223	42.5	28.2	14.8	1.29	.289
LRF1O019	50'54.27	3'10.21	ST171125	133	179	35.4	28	13.1	1.10	.238
LRF1O020	50'54.16	3' 9.72	ST177123	123	190	32.7	25	11.8	1.08	.230
LRF1O020	50'53.99	3' 9.41	ST181116	131	197	42.5	38.5	16.6	1.29	.280
LRF1O021	50' 53.8	3' 8.93	ST186116	90	104	38.5	20.7	12.5	.879	.180
LRF1O021	50'53.58	3' 8.58	ST190112	97.	149	28.2	32	12.3	.970	.209
LRF1O022	50'53.43	3' 8.17	ST194110	88.	149	39	44	16.7	1.16	.259
LRF1O022	50'53.35	3' 7.69	ST200108	100	397	53	58.5	22.7	2.10	.409
LRF1O023	50'53.27	3' 7.19	ST206107	113	315	49	48.2	19.7	1.76	.370
LRF1O023	50'53.18	3' 6.66	ST212105	148	206	37.5	35.9	15	1.25	.310
LRF1O024	50'53.05	3' 6.13	ST219103	95.	407	48.5	49.5	20	2.01	.388
LRF1O024	50'52.88	3' 5.6	ST225099	60.	300	53	41	19.5	1.73	.310
LRF1O025	50'52.92	3' 5.14	ST230099	94.	314	42.2	49.5	18.5	1.70	.340
LRF1O025	50'53.18	3' 4.76	ST235104	88.	298	47.5	61.4	21.7	1.79	.360
LRF1O026	50'53.31	3' 4.2	ST241106	105	105	32.9	19.6	11	.810	.180
LRF1O026	50' 53.3	3' 3.45	ST250106	110	378	63.2	45.5	22.6	2.08	.388
LRF1O027	50'53.32	3' 2.88	ST257107	71.	217	35.2	23.2	12.1	1.15	.230
LRF1O027	50'53.37	3' 2.49	ST262107	97	264	45.7	31.2	16.1	1.48	.280
LRF1O028	50' 53.4	3' 2.06	ST267108	85.	390	55.5	47	21.1	2.03	.370
LRF1O028	50'53.41	3' 1.61	ST272108	88.	182	41.2	31.7	15.1	1.21	.25

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1O029	50'53.39	3' 1.11	ST278108	92.	174	36.7	31.6	14	1.12	.218
LRF1O029	50'53.35	3' .58	ST284107	81.	249	56.5	53	22.2	1.72	.349
LRF1O030	50'53.35	3' .08	ST290107	90.	279	55.5	53.4	22.2	1.77	.349
LRF1O030	50' 53.4	2'59.63	ST295108	125	102	46.7	27.7	15.6	1.01	.238
LRF1O031	50'53.44	2'59.16	ST301109	112	203	51.5	40.7	19.1	1.45	.310
LRF1O031	50'53.47	2'58.69	ST307109	102	155	48.7	17.2	14.1	1.12	.230
LRF1O032	50' 53.5	2'58.24	ST312110	97.	234	55.5	30.7	18.2	1.5	.289
LRF1O032	50'53.53	2'57.83	ST317110	93	226	57.7	34.9	19.2	1.52	.319
LRF1O033	50'53.55	2'57.42	ST322111	102	338	57.4	47.9	21.7	1.94	.388
LRF1O033	50'53.57	2' 57	ST327111	106	263	68.5	53.4	25.2	1.88	.418
LRF1O034	50'53.62	2' 56.6	ST331112	96.	363	56.7	48.4	21.7	2	.388
LRF1O034	50'53.69	2'56.19	ST336113	116	289	53.4	43.5	20	1.73	.360
LRF1O035	50'53.74	2'55.81	ST342114	92.	434	45.2	52.7	19.7	2.07	.400
LRF1O035	50'53.77	2'55.45	ST346114	91.	371	52.2	36	18.2	1.87	.349
LRF1O036	50'53.74	2'55.09	ST350113	98.	193	47.5	38	17.7	1.36	.270
LRF1O036	50'53.63	2'54.74	ST353111	61.	167	33.4	26.5	12.3	1.02	.200
LRF1O037	50'53.55	2'54.44	ST357110	82.	198	38.5	28.6	13.8	1.20	.238
LRF1O037	50'53.51	2'54.19	ST360109	86.	229	43.4	42.7	17.6	1.44	.289
LRF1O038	50'53.45	2'53.82	ST364108	101	221	40.7	51.2	18.6	1.44	.319
LRF1O038	50'53.38	2'53.33	ST370107	103	256	46	32.9	16.2	1.47	.289
LRF1O039	50'53.35	2'52.88	ST375106	86.	314	37	47	17	1.62	.310
LRF1O039	50'53.38	2'52.47	ST380107	104	254	47.7	31.1	16.5	1.48	.300
LRF1O040	50' 53.4	2'52.04	ST385107	95.	321	45.7	38	17.2	1.66	.300
LRF1O040	50'53.43	2'51.59	ST391108	77.	206	44.2	38.5	17	1.35	.270
LRF1O041	50'53.46	2'51.09	ST397108	78.	242	43.2	45.4	18	1.49	.280
LRF1O041	50'53.49	2'50.52	ST403109	108	265	38.5	35.2	15.1	1.41	.289
LRF1O042	50' 53.5	2'49.92	ST410109	107	481	56.5	57.9	23.2	2.39	.430
LRF1O042	50'53.49	2'49.31	ST418109	79.	483	55	43	20.2	2.25	.388
LRF1O043	50'53.44	2'48.76	ST424108	102	504	49	39.5	18.2	2.23	.360
LRF1O043	50'53.37	2'48.27	ST430106	76	610	53.2	53.7	21.7	2.67	.430
LRF1O044	50'53.32	2'47.84	ST435106	106	661	65.5	52.2	24.2	2.94	.509
LRF1O044	50'53.29	2'47.45	ST440105	77.	391	45.7	57.5	20.7	2	.388
LRF1O045	50'53.27	2'47.05	ST444105	93.	426	67.0	45.9	23.5	2.26	.409
LRF1O045	50'53.27	2'46.65	ST449105	98	496	71.5	58.2	26.7	2.59	.479
LRF1O046	50'53.28	2' 46.2	ST454105	105	432	67.3	65.3	27.1	2.43	.479
LRF1O046	50'53.29	2'45.69	ST460104	77.	367	47	39.5	17.7	1.83	.340
LRF1O047	50'53.28	2'45.22	ST466104	96.	430	75.5	59.2	27.7	2.48	.460
LRF1O047	50'53.25	2'44.77	ST471103	95.	329	78	62	28.7	2.25	.449
LRF1O048	50'53.23	2'44.33	ST477103	104	395	49.5	47.2	19.7	1.99	.370
LRF1O048	50'53.24	2'43.88	ST482103	101	451	42.7	57	20	2.13	.400
LRF1O049	50'53.24	2'43.43	ST487103	71.	407	52.9	57.5	22.2	2.14	.388
LRF1O049	50'53.23	2'42.99	ST492103	93.	418	43	61.7	21	2.06	.400
LRF1O050	50'53.24	2'42.57	ST497103	96.	377	46	53.2	20.1	1.95	.379
LRF1O050	50'53.25	2'42.16	ST502103	103	415	38.7	54	18.6	1.97	.379
LRF1O051	50' 53.3	2'41.68	ST508104	111	384	38	45.5	16.7	1.82	.360
LRF1O051	50'53.39	2'41.11	ST515106	105	368	49.2	61.7	22.2	2.00	.379
LRF1O052	50'53.48	2'40.58	ST521107	100	428	46.4	45.5	18.7	2.01	.370
LRF1O052	50'53.55	2'40.07	ST527109	81.	553	53.5	62.4	23.5	2.56	.449
LRF1O053	50' 53.6	2'39.64	ST532110	76.	574	56	62.5	24	2.67	.469
LRF1O053	50'53.62	2'39.31	ST536110	107	609	51.9	63.2	23.2	2.72	.490
LRF1O054	50'53.64	2'38.98	ST540110	84.	450	50	55.2	21.2	2.21	.409
LRF1O054	50'53.65	2'38.66	ST544111	96.	444	47	49.7	19.7	2.10	.400
LRF1O055	50'53.65	2'38.34	ST547111	74	417	44.2	46	18.2	1.98	.340
LRF1O055	50'53.65	2'38.02	ST551111	93.	483	45.5	62.2	21.6	2.27	.430
LRF1O056	50'53.65	2'37.67	ST555111	104	348	50.7	55.5	21.6	1.94	.379
LRF1O056	50'53.65	2' 37.3	ST560111	100	423	46	50.2	19.6	2.03	.370
LRF1O057	50'53.66	2'36.91	ST564111	101	395	50.5	55	21.2	2.04	.388
LRF1O057	50'53.67	2'36.52	ST569111	92.	402	59	62	24.6	2.23	.409
LRF1O058	50'53.67	2'36.13	ST574110	88.	294	65	58	25.2	1.98	.400
LRF1O058	50'53.64	2'35.75	ST578109	87.	411	50.5	56.4	21.7	2.09	.379
LRF1O059	50'53.62	2'35.42	ST582109	79.	335	58.9	77.5	27.5	2.15	.449
LRF1O059	50'53.59	2'35.15	ST585109	86.	403	50.5	71	24.2	2.19	.430

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1O060	50'53.52	2'34.82	ST589107	92.	255	47	73.0	24	1.75	.370
LRF1O060	50'53.41	2'34.43	ST594105	114	308	56	50.5	21.7	1.86	.370
LRF2A006	51'13.77	3' 5.17	ST234485	95.	149	5.34	3.16	1.76	.319	7.98
LRF2A007	51'13.78	3' 4.79	ST238485	94.	84.5	4.32	1.21	.759	.188	2.99
LRF2A009	51'13.78	3' 3.08	ST259485	92.	96.5	3.17	7.65	2.09	.349	7.98
LRF2A009	51'13.75	3' 2.67	ST264484	88	343	15.3	24.7	8	1.27	.25
LRF2A010	51' 13.7	3' 2.25	ST268484	87.	453	20.1	34	10.6	1.71	.289
LRF2A010	51'13.63	3' 1.82	ST274482	90.	350	16.1	28	8.72	1.34	.238
LRF2A011	51'13.55	3' 1.37	ST279481	90	350	14.6	21.2	7.17	1.26	.209
LRF2A011	51'13.48	3' .92	ST284479	88.	321	5.38	27.7	6.28	1.12	.218
LRF2A012	51'13.39	3' .43	ST290478	89.	53.4	.479	1.36	.349	.128	1.99
LRF2A012	51'13.28	2'59.91	ST296476	88.	610	24.2	47.5	14.1	2.26	.370
LRF2A013	51'13.23	2' 59.4	ST302475	84.	765	28.2	56.2	16.6	2.80	.449
LRF2A013	51'13.22	2'58.91	ST308475	100	610	19.2	47.9	13.1	2.23	.388
LRF2A014	51'13.23	2'58.37	ST314475	105	255	28.6	22.7	10.6	1.19	.238
LRF2A014	51'13.25	2'57.79	ST321475	98.	391	16.7	31.2	9.47	1.48	.259
LRF2A015	51'13.27	2'57.23	ST328476	96	606	28.1	42.7	14.1	2.27	.370
LRF2A015	51'13.28	2'56.68	ST334476	99	626	30.2	42.7	14.6	2.35	.409
LRF2A016	51'13.29	2'56.16	ST341476	95.	558	23	41.4	12.6	2.07	.360
LRF2A016	51' 13.3	2'55.68	ST346475	90.	651	29.2	49	15.6	2.47	.379
LRF2A017	51'13.31	2'55.22	ST352475	89.	621	26.7	57	16.2	2.41	.388
LRF2A017	51'13.32	2'54.77	ST357476	85.	745	19.7	56.2	14.6	2.66	.430
LRF2A018	51'13.32	2'54.33	ST362476	84.	615	28.2	44.9	14.6	2.31	.400
LRF2A018	51'13.31	2' 53.9	ST367475	85.	699	29.1	51.9	16	2.60	.418
LRF2A019	51' 13.3	2'53.46	ST372475	93.	715	23.7	54	15.1	2.59	.418
LRF2A019	51'13.29	2'53.01	ST378475	93.	562	21	57	15.1	2.18	.379
LRF2A020	51'13.29	2'52.58	ST383475	95.	619	29.6	39	13.8	2.29	.400
LRF2A020	51' 13.3	2'52.17	ST388475	95.	542	27.5	39	13.3	2.06	.370
LRF2B001	51'12.91	3' 7.6	ST205470	94	147	18.2	25.7	8.85	.800	.170
LRF2B001	51' 12.9	3' 7.95	ST201470	90.	76.3	17.2	38.5	11	.689	.150
LRF2B002	51'12.91	3' 6.84	ST214470	95.	1471	5.75	8.27	.209	4.01	.740
LRF2B002	51'12.92	3' 7.23	ST210470	94.	1549	17.7	24.1	8.43	4.61	.888
LRF2B003	51'12.23	3' 5.96	ST224457	83.	133	10.3	7.26	3.64	.528	.108
LRF2B003	51'12.68	3' 6.42	ST219466	92.	545	5.98	.540	1.45	1.39	.25
LRF2B004	51'12.69	3' 4.8	ST238465	95.	378	17.5	27.6	8.97	1.41	.259
LRF2B004	51'12.23	3' 5.43	ST230457	96.	417	15	24.2	7.80	1.49	.280
LRF2B005	51'12.92	3' 3.78	ST250469	98	395	15.3	23.7	7.82	1.41	.238
LRF2B005	51'12.92	3' 4.25	ST245469	92.	383	14.8	21.2	7.21	1.37	.25
LRF2B006	51'12.91	3' 2.77	ST262469	86.	371	21.7	26.6	9.77	1.46	.259
LRF2B006	51'12.92	3' 3.28	ST256469	97.	364	14.3	31.2	8.93	1.37	.25
LRF2B007	51'12.92	3' 1.79	ST274469	84.	377	18.1	27.6	9.10	1.44	.230
LRF2B007	51'12.91	3' 2.27	ST268469	89	393	17.6	23.7	8.30	1.45	.259
LRF2B008	51'12.91	3' .84	ST285469	95.	71.0	1.98	3.35	.170	.188	2.99
LRF2B008	51'12.92	3' 1.31	ST280469	94.	555	13.5	36.9	9.76	1.91	.340
LRF2B009	51'12.93	2'59.88	ST297469	90	648	30.7	53.4	16.6	2.5	.409
LRF2B009	51'12.92	3' .36	ST291469	84	708	31.2	60.5	18.1	2.73	.460
LRF2B010	51'12.92	2'58.92	ST308469	97.	463	28.2	40.5	13.8	1.87	.330
LRF2B010	51'12.93	2' 59.4	ST302469	91.	633	32	57.2	17.7	2.5	.430
LRF2B011	51'12.91	2' 57.9	ST320469	101	453	26.2	30.2	11.3	1.75	.280
LRF2B011	51'12.92	2'58.42	ST314469	101	657	26.2	59.4	16.7	2.50	.418
LRF2B012	51'12.91	2'56.93	ST331469	92.	743	24.1	47.7	14.1	2.65	.418
LRF2B012	51'12.91	2' 57.4	ST326469	90	691	29.1	47.7	15.3	2.55	.400
LRF2B013	51'12.91	2'56.17	ST340469	90	588	21.7	49.9	14	2.21	.370
LRF2B013	51'12.91	2'56.52	ST336469	92.	615	23	48.7	14.1	2.27	.370
LRF2B014	51'12.91	2'55.45	ST349468	90.	622	25.2	61.2	16.7	2.43	.409
LRF2B014	51'12.91	2'55.82	ST345469	93.	637	29.6	52.9	16.2	2.46	.418
LRF2B015	51'12.94	2'54.79	ST357468	93.	662	30.6	48.2	15.6	2.5	.388
LRF2B015	51'12.92	2' 55.1	ST353468	91	620	28.6	58.2	17.1	2.44	.409
LRF2B016	51'12.97	2'54.11	ST365469	96	674	27.6	55.5	16.2	2.53	.430
LRF2B016	51'12.96	2'54.46	ST361469	93.	658	25.2	52.4	15.3	2.47	.409
LRF2B017	51' 13	2'53.46	ST372470	90	694	28	46.7	14.8	2.53	.409
LRF2B017	51'12.99	2'53.78	ST369469	88.	683	21.2	61.2	16	2.53	.439

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2B018	51' 13	2'52.75	ST381470	92.	589	24.5	45.7	13.8	2.22	.370
LRF2B018	51' 13	2'53.12	ST377470	89	701	19.7	56.7	14.8	2.52	.418
LRF2B019	51'13.02	2'52.07	ST389470	80.	704	29.7	60.2	17.7	2.70	.430
LRF2B019	51'13.01	2' 52.4	ST385470	87.	620	38.2	58.7	19.2	2.54	.430
LRF2B020	51'12.98	2'51.41	ST397469	93.	550	14.6	44.5	11.3	1.99	.340
LRF2B020	51'13.01	2'51.74	ST393470	79.	641	30.1	46.5	15.3	2.43	.388
LRF2C001	51'12.68	3' 8.8	ST191466	95.	181	21.5	13.5	7.32	.838	.158
LRF2C001	51'12.74	3' 8.3	ST197467	101	130	31.7	45.5	15.5	1.03	.238
LRF2C002	51'12.81	3' 7.95	ST201468	90.	110	41.7	51.4	18.7	1.13	.259
LRF2C002	51'12.88	3' 7.64	ST205469	89.	291	37.7	44.2	16.6	1.53	.370
LRF2C003	51'12.75	3' 6.91	ST213467	92.	421	30.7	21.2	10.8	1.64	.330
LRF2C004	51' 12.7	3' 6.48	ST218466	89.	299	15.8	33.4	9.64	1.24	.25
LRF2C004	51'12.71	3' 6.01	ST224466	91.	374	21	28	9.85	1.47	.270
LRF2C005	51'12.71	3' 5.54	ST230466	84.	580	68.5	29.7	20.7	2.58	.460
LRF2C005	51'12.71	3' 5.07	ST235465	87.	387	13.8	26.6	7.98	1.39	.25
LRF2C006	51'12.71	3' 4.6	ST241465	85.	427	20.2	20.2	8.27	1.53	.259
LRF2C006	51'12.72	3' 4.14	ST246465	91.	376	19.6	26.7	9.27	1.44	.25
LRF2C007	51'12.73	3' 3.7	ST251466	92	416	10.1	26.2	7.07	1.44	.25
LRF2C007	51'12.74	3' 3.27	ST256466	98.	406	11.1	32.5	8.43	1.47	.25
LRF2C008	51'12.74	3' 2.8	ST262466	93.	469	14.6	27	8.22	1.62	.259
LRF2C008	51'12.75	3' 2.28	ST268466	97.	390	17.2	26.2	8.68	1.45	.270
LRF2C009	51'12.75	3' 1.79	ST274466	96	339	3	22.2	4.73	1.12	.188
LRF2C009	51'12.75	3' 1.3	ST280466	94.	544	17.1	27.6	8.89	1.87	.300
LRF2C010	51'12.72	3' .39	ST290465	96.	699	24.1	49.7	14.5	2.52	.430
LRF2C011	51'12.69	2'59.96	ST296465	93	712	28.7	59.7	17.2	2.70	.469
LRF2C011	51'12.64	2'59.56	ST300464	98	623	29	58.2	17.2	2.45	.418
LRF2C012	51'12.61	2' 59.1	ST306463	98.	470	17.7	35.4	10.3	1.74	.280
LRF2C012	51' 12.6	2'58.59	ST312463	98	560	30.7	48.7	15.8	2.24	.400
LRF2C013	51'12.57	2'58.11	ST317463	92	609	34.5	42.2	15.5	2.35	.400
LRF2C013	51'12.54	2'57.68	ST323462	93.	600	26.7	49.4	15.1	2.28	.400
LRF2C014	51' 12.5	2'57.25	ST328461	96.	637	22.7	41.2	12.6	2.28	.409
LRF2C014	51'12.46	2'56.82	ST333461	92.	552	30.7	39.9	14.1	2.15	.360
LRF2C015	51'12.46	2'56.36	ST338461	100	607	34	46.7	16.2	2.39	.388
LRF2C015	51'12.49	2'55.87	ST344461	93.	443	20.5	36.2	11.1	1.70	.289
LRF2C016	51' 12.5	2' 55.4	ST350460	99.	584	31.2	51.4	16.2	2.30	.418
LRF2C016	51'12.49	2'54.95	ST355460	94.	583	31	46	15.3	2.26	.409
LRF2C017	51'12.49	2'54.51	ST360460	91.	651	30	47.7	15.5	2.47	.430
LRF2C017	51' 12.5	2'54.06	ST365460	89.	642	29.1	53.5	16.2	2.47	.430
LRF2C018	51'12.51	2'53.63	ST370461	92.	657	26.6	53.9	15.8	2.49	.409
LRF2C018	51'12.52	2'53.22	ST375461	94.	586	30.1	49.2	15.8	2.28	.418
LRF2C019	51'12.55	2'52.85	ST380461	93.	589	36.2	54	18	2.41	.430
LRF2C019	51' 12.6	2'52.52	ST384462	96	720	34.2	53.2	17.2	2.74	.449
LRF2C020	51'12.66	2'52.22	ST387463	93	662	26.2	55.2	16	2.5	.430
LRF2C020	51'12.73	2'51.97	ST390465	92.	651	32.7	51.2	16.7	2.50	.418
LRF2D001	51'12.37	3' 6.91	ST213460	93.	763	37.2	56.4	18.7	2.92	.5
LRF2D001	51'12.26	3' 7.29	ST209458	99.	905	51.7	65.3	23.6	3.52	.569
LRF2D002	51' 12.5	3' 6.1	ST223462	104	425	30.7	25.7	11.6	1.70	.280
LRF2D002	51'12.45	3' 6.51	ST218461	98.	336	23.2	32.5	11.1	1.40	.259
LRF2D003	51'12.51	3' 5.24	ST233462	98.	339	15	23.7	7.71	1.25	.238
LRF2D003	51'12.52	3' 5.67	ST228463	101	369	31.2	23.5	11.3	1.52	.280
LRF2D004	51' 12.5	3' 4.4	ST243461	88	349	19.2	27.6	9.35	1.37	.25
LRF2D004	51'12.51	3' 4.82	ST238462	95.	391	28.7	29.5	11.8	1.62	.280
LRF2D005	51'12.49	3' 3.6	ST253461	93	358	18.2	25.6	8.80	1.37	.259
LRF2D005	51'12.49	3' 4	ST248461	89.	397	18.7	29.1	9.52	1.5	.270
LRF2D006	51'12.48	3' 2.76	ST262461	81.	459	30.7	31.2	12.6	1.84	.300
LRF2D006	51'12.49	3' 3.19	ST257461	97.	408	17	29.7	9.22	1.50	.270
LRF2D007	51'12.48	3' 1.91	ST272461	88.	651	27.2	45.2	14.3	2.42	.409
LRF2D007	51'12.48	3' 2.34	ST267461	88	368	19.7	32.2	10.3	1.46	.238
LRF2D008	51'12.48	3' 1.49	ST277461	97.	440	18.1	30.1	9.56	1.62	.289
LRF2D009	51'12.48	3' .21	ST293461	94.	641	31.5	60	18.1	2.52	.469
LRF2D009	51'12.49	3' .63	ST288461	90.	643	31.2	44.4	15.1	2.43	.388
LRF2D010	51'12.49	2'59.41	ST302461	95	453	24.7	30.6	11.1	1.75	.310

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2D010	51'12.48	2' 59.8	ST297461	94.	631	33.5	48	16.2	2.46	.418
LRF2D011	51'12.48	2' 58.6	ST312461	96.	573	26.2	52	15.3	2.24	.400
LRF2D011	51'12.49	2'59.01	ST307461	95	471	27	29.7	11.5	1.82	.300
LRF2D012	51'12.47	2'57.78	ST321461	91.	535	22.7	39.5	12.3	2	.340
LRF2D012	51'12.48	2'58.19	ST317461	99	690	27.2	48.9	15	2.53	.439
LRF2D013	51'12.48	2'57.01	ST330461	89.	596	22.6	45	13.3	2.21	.379
LRF2D013	51'12.47	2'57.39	ST326461	90.	580	32.5	49	16.2	2.29	.388
LRF2D014	51'12.47	2'56.18	ST340461	91.	575	32	41	14.6	2.24	.370
LRF2D014	51'12.48	2'56.61	ST335461	92	568	33.2	48	16.2	2.26	.400
LRF2D015	51'12.48	2'55.38	ST350460	99.	567	36.2	52.5	17.7	2.32	.400
LRF2D015	51'12.47	2'55.77	ST345461	102	480	26.2	45.2	14.1	1.94	.340
LRF2D016	51' 12.5	2'54.55	ST360460	89.	640	21.7	55.7	15.1	2.40	.400
LRF2D016	51'12.49	2'54.97	ST355460	92.	588	31.2	56.2	17.2	2.35	.409
LRF2D017	51'12.51	2'53.77	ST369461	85	606	38.2	56	18.7	2.5	.418
LRF2D017	51' 12.5	2'54.15	ST364460	88.	675	36.4	49.7	17.2	2.60	.418
LRF2D018	51'12.55	2'53.05	ST377461	90	679	31.2	57	17.2	2.60	.418
LRF2D018	51'12.52	2' 53.4	ST373461	87.	655	25.7	53.9	15.6	2.47	.409
LRF2D019	51'12.58	2'52.24	ST387462	90.	671	23.6	59	16.1	2.50	.418
LRF2D019	51'12.57	2'52.66	ST382462	94.	669	33.5	51.9	17	2.57	.430
LRF2D020	51'12.56	2'51.32	ST398461	86.	253	8.26	22.2	5.94	.949	.158
LRF2D020	51'12.57	2'51.79	ST392462	90.	601	37.4	44.4	16.5	2.39	.388
LRF2E001	51'12.04	3' 8.33	ST196454	97.	881	37.5	73.0	21.7	3.34	.578
LRF2E001	51'12.07	3' 7.96	ST200454	99.	814	53	53.7	21.7	3.22	.528
LRF2E002	51'12.08	3' 7.58	ST204455	99.	819	54.4	58	22.7	3.26	.540
LRF2E002	51'12.09	3' 7.2	ST209455	95.	814	36	56.2	18.2	3.02	.509
LRF2E003	51'12.09	3' 6.83	ST213455	97.	816	45.9	55.7	20.5	3.16	.518
LRF2E003	51' 12.1	3' 6.46	ST218455	99.	635	47.7	47.7	19.5	2.63	.469
LRF2E004	51' 12.1	3' 6.05	ST223455	96.	454	31.6	38	14.1	1.87	.319
LRF2E004	51'12.09	3' 5.6	ST228455	92.	521	24.7	31.6	11.3	1.94	.330
LRF2E005	51'12.09	3' 5.16	ST233454	100	580	21.1	55.7	14.8	2.22	.409
LRF2E005	51'12.08	3' 4.71	ST238454	94.	608	31.5	35.7	13.6	2.26	.360
LRF2E006	51'12.08	3' 4.24	ST244454	101	481	20.7	36.2	11.3	1.79	.310
LRF2E006	51'12.07	3' 3.75	ST250453	96.	561	26.7	46.2	14.3	2.17	.370
LRF2E007	51'12.05	3' 3.24	ST256453	102	676	29.7	58.7	17.2	2.59	.449
LRF2E007	51'12.04	3' 2.71	ST262453	100	790	29.1	62	17.7	2.94	.479
LRF2E008	51'12.05	3' 2.21	ST268453	102	774	35.5	56.2	18.2	2.93	.490
LRF2E008	51'12.09	3' 1.76	ST273454	94.	740	34	50.5	16.7	2.76	.439
LRF2E009	51'12.12	3' 1.34	ST278454	97	245	9.06	15.6	4.88	.888	.180
LRF2E009	51'12.15	3' .97	ST283455	92.	363	10.1	30.7	7.92	1.33	.238
LRF2E010	51'12.17	3' .57	ST287455	106	616	21.2	52	14.3	2.28	.409
LRF2E010	51'12.18	3' .16	ST292455	100	631	29.1	49	15.5	2.41	.409
LRF2E011	51'12.18	2'59.76	ST297455	98.	527	22.6	42.5	12.8	2	.360
LRF2E011	51'12.18	2'59.39	ST301455	100	620	27.2	44.2	14.1	2.31	.400
LRF2E012	51'12.18	2'59.02	ST306455	92	543	25.6	38.7	12.8	2.04	.340
LRF2E012	51'12.18	2'58.65	ST310455	95.	714	26.7	53	15.6	2.64	.430
LRF2E013	51'12.18	2'58.27	ST315455	93.	629	26.7	58.7	16.7	2.45	.418
LRF2E013	51'12.19	2'57.86	ST319456	89.	653	27.2	48.9	15.1	2.45	.409
LRF2E014	51'12.19	2'57.49	ST324456	94.	702	21.6	62.2	16.2	2.59	.439
LRF2E014	51'12.18	2'57.16	ST328455	97.	642	37	58	19	2.58	.439
LRF2E015	51'12.18	2'56.82	ST332455	88.	716	32.5	58	17.7	2.75	.469
LRF2E015	51'12.17	2'56.47	ST336455	87.	692	27.6	52	15.6	2.56	.430
LRF2E016	51'12.17	2'56.12	ST340455	94.	563	24.5	40.9	13	2.09	.360
LRF2E016	51'12.18	2'55.75	ST344455	92	654	30.7	52.7	16.6	2.50	.418
LRF2E017	51'12.19	2'55.36	ST349455	96.	639	31	57.9	17.6	2.50	.418
LRF2E017	51'12.21	2'54.96	ST354455	96.	561	24.2	44.5	13.6	2.13	.370
LRF2E018	51'12.22	2'54.56	ST358455	90	593	26.7	54.7	16	2.30	.388
LRF2E018	51'12.21	2'54.17	ST363455	82	649	24.7	61	16.7	2.5	.418
LRF2E019	51'12.22	2'53.75	ST368455	93.	675	31.2	56.4	17.2	2.59	.439
LRF2E019	51'12.24	2' 53.3	ST374456	93.	686	21.2	48.9	13.6	2.47	.418
LRF2E020	51'12.26	2'52.89	ST378456	91.	673	40.5	49.7	18.2	2.67	.439
LRF2E020	51'12.27	2'52.52	ST383456	87.	729	29.2	59	17.2	2.75	.449
LRF2F001	51'11.71	3' 6.98	ST212448	99.	517	35.2	39.2	15.1	2.08	.379

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2F001	51'11.68	3' 7.49	ST205447	95	734	40.9	51.9	18.7	2.83	.479
LRF2F002	51'11.76	3' 5.99	ST223449	98.	556	35.2	42.7	15.6	2.23	.400
LRF2F002	51'11.73	3' 6.48	ST217448	98.	497	46.2	51.2	19.7	2.25	.409
LRF2F003	51'11.82	3' 5.07	ST234449	97.	840	37	50.7	17.6	3.07	.490
LRF2F003	51'11.79	3' 5.52	ST229449	98	607	36.5	45.2	16.5	2.41	.400
LRF2F004	51'11.88	3' 4.2	ST244450	100	812	27.2	55	16.2	2.93	.469
LRF2F004	51'11.85	3' 4.63	ST239449	99.	881	38.5	57.2	19.1	3.25	.490
LRF2F005	51'11.93	3' 3.41	ST254451	101	768	22.7	59.5	16	2.76	.479
LRF2F005	51' 11.9	3' 3.8	ST249450	93.	696	34.5	58.7	18.5	2.72	.460
LRF2F006	51'11.97	3' 2.68	ST262452	96.	797	18	58.7	14.6	2.78	.460
LRF2F006	51'11.95	3' 3.04	ST258451	93.	795	39.9	56.2	19.2	3.02	.490
LRF2F007	51'12.02	3' 1.86	ST272452	98.	781	33	61.7	18.7	2.96	.479
LRF2F007	51'11.99	3' 2.28	ST267452	102	746	40	61	20.1	2.94	.490
LRF2F008	51'12.02	3' 1.11	ST281452	94	411	15.3	23.6	7.76	1.47	.238
LRF2F008	51'12.03	3' 1.46	ST277453	89	354	12.8	30.2	8.39	1.33	.238
LRF2F009	51' 12	3' .32	ST290452	94.	632	32.7	55.4	17.5	2.5	.460
LRF2F009	51'12.01	3' .73	ST285452	87.	770	27.1	60	17.1	2.83	.469
LRF2F010	51'11.96	2'59.63	ST298451	93	569	26.7	41.2	13.6	2.16	.379
LRF2F010	51'11.98	2'59.96	ST295452	96.	721	24	52.2	14.8	2.60	.430
LRF2F011	51'11.93	2'58.88	ST307451	88.	780	23	61.4	16.2	2.81	.460
LRF2F011	51'11.94	2'59.27	ST303451	81.	715	33.9	51.4	17	2.71	.439
LRF2F012	51' 11.9	2'58.12	ST316450	87.	547	21	41.7	12.3	2.01	.340
LRF2F012	51'11.91	2'58.49	ST312450	88.	664	25.7	44.9	14	2.43	.388
LRF2F013	51'11.88	2'57.38	ST325450	96.	663	29.7	53.2	16.2	2.51	.418
LRF2F013	51'11.89	2'57.75	ST321450	95.	587	28.2	46	14.8	2.25	.370
LRF2F014	51'11.84	2'56.48	ST336449	96	615	33.7	46.2	16	2.40	.400
LRF2F014	51'11.86	2'56.96	ST330450	98.	606	35.7	49.7	17.1	2.43	.418
LRF2F015	51'11.81	2'55.59	ST346448	95.	610	31	55.2	17.1	2.42	.418
LRF2F015	51'11.82	2'56.02	ST341449	97.	623	27.1	52.2	15.6	2.39	.400
LRF2F016	51' 11.8	2'54.75	ST356447	93.	655	27.2	54	16	2.49	.418
LRF2F016	51' 11.8	2'55.16	ST351447	90.	684	34.7	56	18	2.67	.439
LRF2F017	51'11.83	2'53.95	ST366448	96.	391	16.2	41.2	11.1	1.53	.270
LRF2F017	51'11.81	2'54.34	ST361448	95	587	32.2	50.7	16.5	2.32	.400
LRF2F018	51'11.84	2'53.12	ST376448	88.	590	23.7	50.7	14.6	2.25	.388
LRF2F018	51'11.84	2'53.54	ST371448	88.	581	29	46.5	15	2.25	.370
LRF2F019	51'11.85	2'52.39	ST384448	93.	666	28.7	45.9	14.8	2.48	.418
LRF2F019	51'11.84	2'52.74	ST380448	89.	720	29.2	46.5	15.1	2.64	.418
LRF2F020	51'11.87	2'51.45	ST395449	91.	500	22.7	39.4	12.3	1.89	.319
LRF2F020	51'11.86	2'51.96	ST389449	93.	612	24.7	50.5	14.8	2.30	.400
LRF2G001	51'11.33	3' 8.54	ST193441	88.	528	50.4	46.5	19.7	2.34	.439
LRF2G001	51'11.36	3' 8.21	ST197441	98.	651	40.5	53.5	18.7	2.63	.460
LRF2G002	51' 11.4	3' 7.89	ST201442	88.	720	42.7	58.7	20.2	2.88	.509
LRF2G002	51'11.42	3' 7.58	ST204442	80	693	57.5	55.7	23.2	2.96	.518
LRF2G003	51'11.46	3' 7.27	ST208443	95.	655	56.7	47	21.2	2.77	.479
LRF2G003	51'11.49	3' 6.95	ST212444	107	580	41.7	45	17.7	2.39	.439
LRF2G004	51'11.52	3' 6.6	ST216444	89.	689	25.2	55.2	15.8	2.55	.430
LRF2G004	51'11.54	3' 6.22	ST220445	92.	722	22.7	56.2	15.3	2.63	.430
LRF2G005	51'11.56	3' 5.84	ST225445	90	679	41	53	18.7	2.71	.449
LRF2G005	51'11.58	3' 5.46	ST229445	89	685	46.2	48.7	19.2	2.75	.469
LRF2G006	51'11.61	3' 5.07	ST234445	98.	722	23.1	61.7	16.5	2.68	.460
LRF2G006	51'11.64	3' 4.69	ST239445	95.	800	33.7	58.7	18.2	2.99	.509
LRF2G007	51'11.66	3' 4.27	ST244446	92.	855	24	54.5	15.3	3	.5
LRF2G007	51'11.68	3' 3.84	ST249446	90.	761	32.5	52.5	16.7	2.81	.449
LRF2G008	51'11.69	3' 3.41	ST254446	89	791	23.5	56.4	15.6	2.81	.490
LRF2G008	51' 11.7	3' 2.98	ST259447	91.	786	21.2	65	16.6	2.83	.5
LRF2G009	51'11.69	3' 2.52	ST264446	102	418	15.6	28.1	8.63	1.50	.259
LRF2G009	51'11.67	3' 2.03	ST270446	92.	465	11.1	35.5	8.97	1.63	.280
LRF2G010	51'11.66	3' 1.54	ST276446	93.	185	14.1	11.3	5.25	.75	.128
LRF2G010	51'11.65	3' 1.05	ST282446	97.	605	27.7	48.7	15.1	2.30	.400
LRF2G011	51'11.66	3' .55	ST288446	99.	649	21.7	53.5	14.6	2.40	.418
LRF2G011	51'11.67	3' .06	ST293446	95.	666	27.5	55.4	16.2	2.51	.409
LRF2G012	51'11.68	2'59.57	ST299446	95.	727	23	57.4	15.6	2.66	.439

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2G012	51'11.69	2'59.08	ST305446	90.	778	24.7	61.2	16.7	2.83	.469
LRF2G013	51' 11.7	2' 58.6	ST311447	88.	625	30.2	49.7	15.8	2.41	.418
LRF2G013	51' 11.7	2'58.14	ST316447	88	479	21	43.9	12.6	1.86	.310
LRF2G014	51' 11.7	2'57.68	ST322447	89	548	25	41.9	13.3	2.06	.340
LRF2G014	51'11.69	2'57.21	ST327446	89.	665	26.2	57	16.2	2.51	.418
LRF2G015	51' 11.7	2' 56.7	ST333447	94.	681	23.7	58.7	16.1	2.54	.430
LRF2G015	51'11.71	2'56.15	ST340447	96.	675	23.7	47.4	14	2.46	.400
LRF2G016	51'11.72	2'55.66	ST345446	93.	610	20.7	46.9	13.1	2.24	.388
LRF2G016	51'11.73	2'55.21	ST351446	94.	715	16.2	63	15.1	2.57	.439
LRF2G017	51'11.73	2'54.76	ST356446	99.	669	33.9	49	16.6	2.55	.439
LRF2G017	51'11.72	2'54.29	ST362446	98.	689	26.2	48.4	14.6	2.51	.418
LRF2G018	51'11.72	2'53.86	ST367446	98.	362	13.5	34.5	9.31	1.37	.25
LRF2G018	51'11.73	2'53.46	ST371446	98.	316	11.8	26.7	7.53	1.19	.200
LRF2G019	51'11.74	2'53.04	ST376446	92.	610	22.6	50.2	14.1	2.27	.379
LRF2G019	51'11.73	2'52.61	ST382446	85.	665	23.1	54.9	15.1	2.47	.400
LRF2G020	51'11.71	2'52.23	ST386446	94.	489	19.5	34	10.6	1.78	.300
LRF2G020	51'11.68	2' 51.9	ST390445	95.	382	16.6	33	9.77	1.47	.25
LRF2H001	51'11.27	3' 7.4	ST207440	85.	705	64.8	63.2	26.2	3.13	.540
LRF2H001	51'11.23	3' 7.78	ST202439	94	709	65.8	45.7	23.2	3.01	.540
LRF2H002	51'11.33	3' 6.63	ST216441	76	641	46.9	54	20.2	2.68	.469
LRF2H002	51' 11.3	3' 7.02	ST211440	96.	608	54	48.5	21.1	2.64	.490
LRF2H003	51'11.34	3' 5.68	ST227441	86	819	39.5	56	19.2	3.08	.509
LRF2H003	51'11.34	3' 6.19	ST221441	87	761	48.9	66.9	23.2	3.10	.540
LRF2H004	51'11.31	3' 4.78	ST238439	95.	660	40.9	37.5	16.1	2.53	.418
LRF2H004	51'11.33	3' 5.21	ST232440	98.	752	39.7	41.5	16.6	2.79	.460
LRF2H005	51'11.26	3' 3.93	ST248438	97	879	41.7	54.5	19.2	3.26	.518
LRF2H005	51'11.29	3' 4.35	ST243439	96.	836	32.4	61.5	18.5	3.08	.5
LRF2H006	51'11.23	3' 3.02	ST258438	97	344	11.1	20.1	6.15	1.21	.200
LRF2H006	51'11.24	3' 3.49	ST253438	88.	716	34.5	60.2	18.7	2.77	.469
LRF2H007	51'11.21	3' 2.12	ST269437	94	794	29.6	58.7	17.2	2.93	.439
LRF2H007	51'11.22	3' 2.57	ST264438	99.	721	27.7	54.9	16.2	2.68	.449
LRF2H008	51'11.19	3' 1.24	ST279437	102	653	28.7	46.9	15	2.45	.409
LRF2H008	51' 11.2	3' 1.68	ST274437	101	669	26.5	60.5	17	2.54	.439
LRF2H009	51'11.21	3' .34	ST290437	85.	687	58	46.7	21.6	2.89	.479
LRF2H009	51'11.19	3' .79	ST285437	93	544	47	50.5	19.7	2.39	.418
LRF2H010	51'11.24	2'59.43	ST301438	94.	763	27.5	58.9	16.7	2.80	.460
LRF2H010	51'11.23	2'59.88	ST296438	97.	698	35.7	47.5	16.7	2.66	.460
LRF2H011	51'11.28	2' 58.5	ST312439	99	609	28.5	46.5	14.8	2.31	.388
LRF2H011	51'11.26	2'58.97	ST306438	96	652	36.9	58.5	19	2.63	.439
LRF2H012	51'11.31	2'57.63	ST322439	95.	641	36.9	53	18	2.54	.418
LRF2H012	51' 11.3	2'58.05	ST317439	99.	738	34.5	64.3	19.5	2.85	.449
LRF2H013	51'11.34	2'56.78	ST332440	96	589	26.7	50.9	15.3	2.26	.379
LRF2H013	51'11.33	2'57.21	ST327440	91.	641	26.7	52.5	15.6	2.44	.409
LRF2H014	51'11.36	2'55.91	ST342440	96.	514	16.2	45	11.8	1.89	.330
LRF2H014	51'11.35	2'56.34	ST337440	103	532	25.7	37.7	12.6	2.00	.340
LRF2H015	51'11.37	2'55.05	ST353439	97.	701	27.6	51	15.5	2.58	.418
LRF2H015	51'11.36	2'55.48	ST348439	96.	606	27.1	50.9	15.3	2.31	.418
LRF2H016	51'11.36	2'54.29	ST362439	91.	654	30.5	44.5	15	2.46	.400
LRF2H016	51'11.37	2'54.66	ST357439	94	719	30.7	47	15.6	2.66	.439
LRF2H017	51'11.36	2'53.58	ST370439	93	201	5.40	20.2	4.90	.759	.128
LRF2H017	51'11.35	2'53.93	ST366439	91.	304	11.8	23.1	6.86	1.12	.200
LRF2H018	51'11.36	2'52.84	ST379439	93.	193	2.27	10.5	2.43	.629	.100
LRF2H019	51'11.36	2'52.19	ST387439	97.	366	16.1	27.2	8.60	1.37	.238
LRF2H019	51'11.36	2' 52.5	ST383439	98.	314	18.7	20.7	8.02	1.23	.200
LRF2H020	51'11.36	2'51.84	ST391439	94.	182	5.67	12	3.47	.648	.108
LRF2I001	51'10.87	3' 8.46	ST194432	98	496	32.5	41.7	14.8	2.01	.370
LRF2I001	51'10.86	3' 8.00	ST199432	101	511	27.2	35.2	12.6	1.96	.349
LRF2I002	51'10.84	3' 7.61	ST204432	97.	724	49.5	58	21.7	2.97	.528
LRF2I002	51'10.83	3' 7.21	ST209431	109	668	40	46.2	17.5	2.60	.460
LRF2I003	51'10.83	3' 6.82	ST213431	100	676	37.7	49	17.5	2.63	.460
LRF2I003	51'10.84	3' 6.44	ST218432	102	780	42	58.2	20.1	3.01	.490
LRF2I004	51'10.87	3' 6.02	ST223432	98.	695	43.5	41.2	17.2	2.70	.439

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2I004	51' 10.9	3' 5.57	ST228433	93.	705	39.4	46.5	17.2	2.72	.439
LRF2I005	51'10.92	3' 5.12	ST234432	97	722	23.7	49.4	14.3	2.58	.418
LRF2I005	51'10.95	3' 4.69	ST239433	95.	686	39	55.2	18.7	2.72	.449
LRF2I006	51'10.97	3' 4.27	ST244433	100	765	33.2	53.5	17.2	2.84	.449
LRF2I006	51'10.99	3' 3.87	ST248433	100	718	19.2	51.4	13.6	2.53	.449
LRF2I007	51'11.01	3' 3.47	ST253434	89.	753	36.4	56.9	18.6	2.89	.460
LRF2I007	51'11.02	3' 3.06	ST258434	93.	393	10.1	32.7	8.22	1.40	.238
LRF2I008	51'11.03	3' 2.69	ST262434	96	695	19.6	61.2	15.6	2.54	.430
LRF2I008	51'11.04	3' 2.34	ST266434	89	712	28	54.5	16.2	2.66	.449
LRF2I009	51'11.04	3' 2	ST270434	85.	756	27	53	15.6	2.75	.460
LRF2I009	51'11.05	3' 1.65	ST275435	87.	727	26.1	61.2	17.1	2.72	.460
LRF2I010	51'11.05	3' 1.29	ST279435	94.	685	34	60	18.6	2.70	.449
LRF2I010	51'11.06	3' .94	ST283435	78.	719	51	48.7	20.2	2.91	.479
LRF2I011	51'11.06	3' .79	ST285435	93.	615	42	38.9	16.6	2.45	.418
LRF2I011	51'11.07	3' .87	ST284435	96.	666	29.5	43.9	14.6	2.48	.430
LRF2I012	51'11.07	3' .48	ST288435	99.	539	47	39.5	17.7	2.29	.400
LRF2I012	51'11.06	2'59.65	ST298435	97	777	27.6	53.4	16	2.80	.479
LRF2I013	51'11.05	2'58.99	ST306435	90	724	33.9	44	15.6	2.69	.430
LRF2I013	51'11.06	2' 58.5	ST312435	93.	645	32.7	56.2	17.6	2.52	.409
LRF2I014	51'11.08	2'57.99	ST318435	95.	671	23.2	52	14.6	2.47	.430
LRF2I014	51'11.12	2'57.44	ST324436	90.	605	32	56	17.2	2.42	.430
LRF2I015	51'11.14	2'56.88	ST331436	87.	595	21.7	47.2	13.5	2.21	.388
LRF2I015	51'11.13	2'56.32	ST338436	86	689	26.1	57.5	16.2	2.57	.439
LRF2I016	51'11.13	2'55.81	ST344436	83.	695	19	54.7	14.3	2.5	.418
LRF2I016	51'11.13	2'55.34	ST349435	91.	683	21.2	58.2	15.3	2.50	.418
LRF2I017	51'11.13	2'54.86	ST355435	99.	449	17.2	34.5	10.1	1.65	.289
LRF2I017	51'11.13	2'54.37	ST361435	94.	540	21.2	46	13.1	2.03	.340
LRF2I018	51'11.13	2'53.86	ST367435	95	390	14.1	30.6	8.77	1.45	.25
LRF2I019	51'11.15	2'52.51	ST383435	95	315	11.8	25.7	7.34	1.16	.209
LRF2I020	51'11.16	2'52.15	ST387436	102	332	25.5	31.2	11.3	1.41	.25
LRF2I020	51'11.18	2'51.81	ST391436	102	322	19.7	22.2	8.51	1.25	.230
LRF2J001	51'10.67	3' 7.34	ST207428	86.	892	41	58.7	20	3.31	.528
LRF2J001	51' 10.7	3' 7.77	ST202429	100	834	43.4	50.2	19	3.14	.509
LRF2J002	51'10.67	3' 6.49	ST217428	81.	885	41	53.5	19	3.26	.509
LRF2J002	51'10.66	3' 6.91	ST212428	94.	981	44.5	63.5	21.7	3.65	.578
LRF2J003	51'10.61	3' 5.48	ST229427	90	761	56	54.5	22.6	3.10	.518
LRF2J003	51'10.65	3' 6.02	ST223428	92.	768	30.6	50.4	16.1	2.79	.460
LRF2J004	51'10.62	3' 4.56	ST240427	87.	747	50.5	49.9	20.5	2.99	.490
LRF2J004	51' 10.6	3' 5	ST235426	88	792	37.2	53.2	18.1	2.98	.490
LRF2J005	51'10.65	3' 3.69	ST250427	87.	735	46.5	53.2	20.2	2.93	.479
LRF2J005	51'10.64	3' 4.12	ST245427	90.	785	40.5	48.5	18	2.96	.5
LRF2J006	51'10.68	3' 2.85	ST260428	91.	685	35.2	54.9	18	2.67	.449
LRF2J006	51'10.66	3' 3.26	ST256427	95.	451	23.2	31.7	11	1.73	.280
LRF2J007	51'10.71	3' 1.92	ST271428	99.	764	41.7	56	19.6	2.97	.490
LRF2J007	51' 10.7	3' 2.4	ST266428	94.	729	33.4	57.7	18.1	2.77	.469
LRF2J008	51'10.66	3' .97	ST283427	92.	552	19.7	36.2	11	1.99	.330
LRF2J008	51'10.69	3' 1.44	ST277428	91.	638	34	51.5	17.1	2.5	.439
LRF2J009	51'10.57	3' .12	ST293426	93.	718	28.7	55.2	16.6	2.69	.449
LRF2J009	51'10.62	3' .53	ST288427	88.	828	36.4	59	19	3.08	.479
LRF2J010	51'10.57	2'59.13	ST304426	97	740	25.7	52.2	15.3	2.69	.460
LRF2J010	51'10.56	2'59.66	ST298425	100	757	34	51.2	17	2.81	.449
LRF2J011	51'10.64	2'58.18	ST316427	93.	716	25.7	56.4	16.1	2.65	.430
LRF2J011	51' 10.6	2'58.64	ST310426	89.	686	33.7	49.7	16.7	2.60	.430
LRF2J012	51'10.72	2'57.26	ST327428	94	510	36.7	42.5	16	2.10	.360
LRF2J012	51'10.68	2'57.72	ST321428	96.	553	29.7	41.5	14.3	2.15	.370
LRF2J013	51'10.79	2'56.45	ST336430	102	478	16.1	38.5	10.6	1.75	.310
LRF2J013	51'10.76	2'56.84	ST331429	106	569	27.1	40.2	13.3	2.16	.360
LRF2J014	51'10.83	2'55.74	ST345429	96.	667	26.2	55.7	16.1	2.50	.418
LRF2J014	51'10.81	2'56.08	ST340430	98	678	24.2	54.7	15.3	2.50	.409
LRF2J015	51'10.84	2'55.05	ST353430	94.	696	32.7	55.2	17.5	2.68	.430
LRF2J015	51'10.84	2' 55.4	ST349430	97.	570	26.6	48.7	14.8	2.21	.409
LRF2J016	51'10.85	2'54.32	ST361430	89.	649	28.5	50	15.6	2.46	.409

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2J016	51'10.84	2'54.69	ST357430	91.	708	34.7	57	18.2	2.74	.460
LRF2J017	51'10.84	2'53.64	ST369430	95.	208	8.72	11.8	4.11	.75	.119
LRF2J017	51'10.85	2'53.97	ST365430	93.	309	12.8	22.6	7.01	1.13	.200
LRF2J018	51'10.84	2' 52.9	ST378430	94.	202	14.3	10.1	5.11	.790	.128
LRF2J019	51'10.83	2'52.15	ST387429	96.	212	13.5	14.8	5.75	.838	.150
LRF2J019	51'10.84	2'52.52	ST383430	92.	180	10.5	7.15	3.67	.670	.100
LRF2K001	51'10.44	3' 8.42	ST194424	102	905	34	48.7	16.6	3.22	.528
LRF2K001	51' 10.5	3' 8.01	ST199425	103	978	41	51.7	18.7	3.50	.560
LRF2K002	51'10.54	3' 7.68	ST203426	98.	816	35.7	52.4	17.6	3.00	.518
LRF2K002	51'10.55	3' 7.44	ST206426	97	888	34.2	59.2	18.5	3.24	.528
LRF2K003	51'10.56	3' 7.2	ST209426	86.	966	32.2	57.7	17.7	3.43	.569
LRF2K003	51'10.55	3' 6.95	ST212426	96.	1039	49.7	55.7	21.2	3.80	.620
LRF2K004	51'10.55	3' 6.66	ST215426	102	871	39.5	60	19.7	3.25	.540
LRF2K004	51'10.55	3' 6.31	ST219426	102	814	43.5	50.5	19	3.07	.518
LRF2K005	51'10.54	3' 5.92	ST224426	98	762	39.7	46.2	17.2	2.85	.469
LRF2K005	51'10.53	3' 5.47	ST229426	83.	859	51.5	44.7	19.7	3.25	.540
LRF2K006	51'10.52	3' 5.04	ST234425	98.	739	27.7	48.7	15.1	2.69	.460
LRF2K006	51'10.52	3' 4.61	ST240425	95	705	40.9	49.5	18.2	2.75	.490
LRF2K007	51'10.52	3' 4.18	ST245425	94.	777	33.5	44.7	15.8	2.81	.469
LRF2K007	51'10.52	3' 3.73	ST250425	93.	759	28.7	47	15.1	2.74	.449
LRF2K008	51'10.53	3' 3.3	ST255425	108	430	22.2	26.7	9.89	1.62	.270
LRF2K008	51'10.54	3' 2.88	ST260425	88.	479	22.1	34.7	11.3	1.79	.300
LRF2K009	51'10.55	3' 2.39	ST266425	91.	753	30	60.7	17.7	2.82	.469
LRF2K009	51'10.56	3' 1.84	ST272425	94.	711	28.2	47.2	15	2.59	.439
LRF2K010	51'10.57	3' 1.33	ST278426	93.	334	11.1	25.2	7.11	1.22	.230
LRF2K010	51'10.56	3' .86	ST284425	100	442	27.2	28	11.1	1.72	.300
LRF2K011	51'10.56	3' .37	ST290425	94.	646	30.7	49.5	16	2.47	.418
LRF2K011	51'10.55	2'59.89	ST295425	94.	695	23.1	61.9	16.5	2.58	.469
LRF2K012	51'10.55	2'59.42	ST301425	93.	726	25.7	55.2	15.8	2.67	.449
LRF2K012	51'10.54	2'58.98	ST306425	96.	698	25.1	49.7	14.6	2.53	.430
LRF2K013	51'10.54	2'58.55	ST311425	92.	609	30	44.4	14.8	2.31	.400
LRF2K013	51'10.53	2'58.12	ST316425	95	742	27	50.7	15.3	2.70	.439
LRF2K014	51'10.48	2' 57.7	ST321424	93.	634	32.2	51.5	16.7	2.47	.430
LRF2K014	51'10.41	2'57.31	ST326423	91.	464	26.7	51.5	15.3	1.95	.370
LRF2K015	51' 10.4	2'56.95	ST330422	96	507	40	41	16.5	2.15	.388
LRF2K015	51'10.45	2'56.63	ST334423	102	560	25.7	48.7	14.6	2.18	.388
LRF2K016	51'10.51	2'56.27	ST338425	89.	686	48	45.4	19.1	2.75	.460
LRF2K016	51'10.57	2'55.88	ST343426	85.	757	24.7	56	15.8	2.75	.439
LRF2K017	51' 10.6	2'55.48	ST348425	92	732	33.2	52.7	17.1	2.75	.439
LRF2K017	51'10.59	2'55.07	ST352425	88.	420	22.1	34	11.1	1.63	.280
LRF2K018	51'10.58	2'54.68	ST357425	87.	613	23.2	49.2	14.3	2.28	.388
LRF2K018	51'10.56	2'54.31	ST361424	87.	698	21.7	45.2	13.1	2.48	.400
LRF2K019	51'10.55	2'53.92	ST366424	97.	351	9.93	29.2	7.59	1.26	.230
LRF2K019	51'10.54	2'53.53	ST371424	93	187	4.86	17.1	4.21	.689	.128
LRF2L001	51' 10.2	3' 7.1	ST210420	85.	1294	63.5	71.0	27.2	4.78	.708
LRF2L001	51'10.18	3' 7.52	ST205419	91.	1109	61	67.0	26	4.21	.629
LRF2L002	51'10.22	3' 6.26	ST220420	97.	1101	66.3	66.4	27.1	4.25	.638
LRF2L002	51'10.21	3' 6.67	ST215420	92	929	45.7	53.9	20.1	3.45	.540
LRF2L003	51'10.21	3' 5.38	ST230420	97.	1135	74.3	67.5	29.1	4.44	.670
LRF2L003	51'10.22	3' 5.83	ST225420	98.	919	55.7	57.7	23.1	3.55	.560
LRF2L004	51' 10.2	3' 4.43	ST242419	90	778	48.9	64	22.7	3.15	.518
LRF2L004	51'10.21	3' 4.91	ST236419	87.	1061	58.5	66.5	25.2	4.05	.620
LRF2L005	51'10.13	3' 3.52	ST252418	98.	727	51	57	21.7	2.99	.479
LRF2L005	51'10.18	3' 3.97	ST247418	90.	726	45.5	61.7	21.5	2.95	.490
LRF2L006	51'10.04	3' 2.62	ST263416	96.	573	35.5	45	16.2	2.28	.360
LRF2L006	51'10.09	3' 3.07	ST258417	99	762	47.5	63	22.2	3.06	.518
LRF2L007	51'10.06	3' 1.65	ST275416	96	360	22.2	40	12.3	1.51	.259
LRF2L007	51'10.02	3' 2.14	ST269415	91	644	40	67	21.2	2.70	.469
LRF2L008	51'10.12	3' .82	ST284417	93.	629	44.2	63.2	21.5	2.68	.460
LRF2L008	51'10.09	3' 1.2	ST280417	92.	711	47	65.5	22.6	2.96	.5
LRF2L009	51'10.17	2' 60	ST294418	90	440	24.7	40.4	13	1.76	.280
LRF2L009	51'10.15	3' .41	ST289418	94	673	53.5	67	24.2	2.94	.460

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2L010	51'10.23	2'59.21	ST303419	88.	633	33	63.7	19.1	2.55	.430
LRF2L010	51'10.21	2' 59.6	ST299419	90.	580	38.4	46.5	17.1	2.34	.388
LRF2L011	51' 10.3	2'58.37	ST313421	94	587	44	47	18.5	2.45	.409
LRF2L011	51'10.27	2' 58.8	ST308420	92.	565	38.7	42	16.2	2.28	.400
LRF2L012	51' 10.3	2'57.49	ST324421	97.	534	51.5	49.9	20.7	2.42	.430
LRF2L012	51'10.31	2'57.93	ST319421	94.	589	33.5	41.2	15.1	2.27	.370
LRF2L013	51'10.31	2'56.68	ST333421	93.	557	60.4	58.7	24.2	2.65	.449
LRF2L013	51' 10.3	2'57.07	ST329421	93.	464	54.5	45.7	20.7	2.23	.388
LRF2L014	51'10.33	2'56.01	ST341421	91.	532	40.5	43.2	17.1	2.24	.360
LRF2L014	51'10.32	2'56.32	ST338421	83.	610	47.5	62.9	22.2	2.67	.449
LRF2L015	51'10.34	2'55.27	ST350420	92	667	66.9	58.5	25.7	3.00	.509
LRF2L015	51'10.33	2'55.66	ST345420	92.	556	47	48.2	19.2	2.41	.409
LRF2L016	51'10.33	2'54.59	ST358420	89.	665	59.7	57	23.7	2.92	.490
LRF2L016	51'10.34	2'54.92	ST354420	87	647	57.9	58.5	23.7	2.84	.509
LRF2L017	51'10.33	2'53.88	ST367420	95.	256	18.7	20	7.90	1.04	.180
LRF2L017	51'10.33	2'54.24	ST362420	94.	397	35.5	40.2	15.3	1.76	.310
LRF2L018	51'10.33	2' 53.5	ST371420	99	240	13.8	24.2	7.53	.990	.170
LRF2M001	51' 9.92	3' 8.36	ST195415	87.	1190	47.7	67	23	4.28	.629
LRF2M001	51' 9.90	3' 7.96	ST200414	89.	1215	48	64.8	22.7	4.34	.648
LRF2M002	51' 9.87	3' 7.61	ST204414	98.	1207	48.9	67.5	23.2	4.34	.660
LRF2M002	51' 9.84	3' 7.3	ST208413	98.	1155	51.5	62.9	23.1	4.19	.648
LRF2M003	51' 9.84	3' 6.96	ST212413	82.	1080	50	61.7	22.5	3.97	.578
LRF2M003	51' 9.85	3' 6.59	ST216413	81	1234	47	64.5	22.2	4.38	.660
LRF2M004	51' 9.85	3' 6.22	ST220413	91.	1142	50.9	60.5	22.5	4.13	.610
LRF2M004	51' 9.85	3' 5.83	ST225413	96.	1154	44.2	60.2	21	4.09	.620
LRF2M005	51' 9.83	3' 5.46	ST229413	94.	1031	39	56.5	19.1	3.67	.550
LRF2M005	51' 9.8	3' 5.11	ST234411	107	1091	47	65.5	22.6	3.99	.600
LRF2M006	51' 9.8	3' 4.77	ST238411	95	973	41.7	58.5	20.1	3.54	.560
LRF2M006	51' 9.81	3' 4.45	ST241412	92.	838	40	44	17.1	3.05	.460
LRF2M007	51' 9.82	3' 4.11	ST245412	89.	1059	29.2	55.7	16.7	3.63	.540
LRF2M007	51' 9.83	3' 3.76	ST250412	90.	581	25.6	54.4	15.6	2.25	.370
LRF2M008	51' 9.85	3' 3.38	ST254412	90.	693	37.9	54.5	18.5	2.72	.430
LRF2M008	51' 9.86	3' 2.98	ST259413	90.	898	35.7	65.9	20.1	3.32	.509
LRF2M009	51' 9.88	3' 2.55	ST264413	91.	707	29.2	58.5	17.2	2.69	.439
LRF2M009	51' 9.89	3' 2.1	ST269413	92	335	19.2	28.1	9.47	1.34	.218
LRF2M010	51' 9.93	3' 1.65	ST275414	91.	308	13.3	32.7	8.97	1.23	.209
LRF2M010	51' 9.96	3' 1.22	ST280414	83.	773	44.9	60.7	21.2	3.05	.5
LRF2M011	51' 9.97	3' .76	ST285415	88.	721	40.4	64.9	20.7	2.90	.479
LRF2M011	51' 9.99	3' .27	ST291415	90.	762	37.2	71.9	21.5	3.01	.479
LRF2M012	51' 10	2' 59.8	ST296415	88.	427	18	39	11.1	1.63	.280
LRF2M012	51' 10	2'59.34	ST302415	94.	683	39.5	59.7	19.7	2.75	.449
LRF2M013	51' 10	2'58.88	ST307415	100	434	36.7	37	15	1.87	.319
LRF2M013	51' 10	2'58.41	ST313415	87	524	38	38	15.5	2.15	.360
LRF2M014	51'10.02	2'57.94	ST318415	80.	564	37.2	38.5	15.3	2.25	.370
LRF2M014	51'10.05	2'57.45	ST324416	81.	694	41	47.9	18	2.72	.430
LRF2M015	51'10.06	2'56.97	ST330416	82.	700	39.2	47.7	17.5	2.71	.430
LRF2M015	51'10.07	2' 56.5	ST336416	91.	674	35.2	49.9	17	2.59	.418
LRF2M016	51'10.08	2'56.05	ST341417	98.	463	27.7	34.2	12.5	1.83	.300
LRF2M016	51'10.09	2'55.62	ST346416	100	543	47.7	38.4	17.7	2.30	.379
LRF2M017	51'10.11	2'55.17	ST351416	90.	676	45.5	56	20.5	2.76	.479
LRF2M017	51'10.12	2'54.71	ST357416	107	575	43.2	59.5	20.6	2.5	.460
LRF2M018	51'10.11	2'54.26	ST362416	92.	640	53.7	68.8	24.7	2.84	.490
LRF2M018	51' 10.1	2'53.82	ST367416	86.	693	40.7	57.2	19.6	2.76	.469
LRF2M019	51'10.08	2'53.38	ST372416	94.	517	30.7	48.4	15.6	2.09	.360
LRF2M019	51'10.05	2'52.93	ST378415	91.	234	26	21.7	9.81	1.10	.188
LRF2N001	51' 9.57	3' 7.05	ST211408	98.	803	46	46.5	18.7	3.04	.479
LRF2N001	51' 9.59	3' 7.52	ST205409	94	1312	56	71.5	25.7	4.75	.689
LRF2N002	51' 9.62	3' 6.05	ST223409	95	1090	51	63.4	23.1	4.01	.600
LRF2N002	51' 9.62	3' 6.56	ST216409	97.	891	48.2	54.7	20.7	3.39	.528
LRF2N003	51' 9.62	3' 5.12	ST234408	102	991	50.5	46.9	20	3.63	.550
LRF2N003	51' 9.62	3' 5.57	ST228409	89.	1365	53.2	69.5	24.7	4.84	.689
LRF2N004	51' 9.62	3' 4.2	ST244408	90.	973	52.2	52.5	21.2	3.64	.540

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2N004	51' 9.62	3' 4.66	ST239408	71.	408	45	46.7	18.7	1.97	.330
LRF2N006	51' 9.60	3' 2.5	ST265408	94.	711	51.2	64.8	23.2	3	.509
LRF2N006	51' 9.60	3' 2.87	ST260408	91.	756	53	79.0	26.2	3.25	.540
LRF2N007	51' 9.58	3' 1.59	ST275407	96.	710	41.7	65.8	21.2	2.89	.479
LRF2N007	51' 9.59	3' 2.08	ST269408	90.	716	50.7	68.5	24	3.02	.509
LRF2N008	51' 9.63	3' .72	ST286408	91.	712	47	70	23.2	2.99	.490
LRF2N008	51' 9.66	3' 1.14	ST281409	95.	738	34.2	55.5	17.7	2.79	.490
LRF2N009	51' 9.68	2'59.88	ST296409	85.	377	24.7	33.7	11.8	1.54	.259
LRF2N009	51' 9.68	3' .3	ST291409	96.	712	48.7	59.2	21.7	2.93	.490
LRF2N010	51' 9.69	2'59.04	ST305409	86.	357	29.2	33.4	12.6	1.53	.270
LRF2N010	51' 9.7	2'59.46	ST300410	95.	310	24.2	27.6	10.5	1.33	.238
LRF2N011	51' 9.75	2'58.35	ST314410	92.	581	45.7	44.5	18.2	2.44	.400
LRF2N011	51' 9.74	2'58.67	ST310410	79.	559	35.7	53.2	17.7	2.30	.379
LRF2N012	51' 9.76	2'57.64	ST322411	84.	975	54.2	65.0	24.1	3.75	.560
LRF2N012	51' 9.75	2'58.01	ST318410	100	949	36.7	57.2	18.7	3.43	.518
LRF2N013	51' 9.79	2' 56.9	ST331411	84	861	57.7	63	24.5	3.48	.560
LRF2N013	51' 9.79	2'57.27	ST326411	75.	922	44	65	21.7	3.49	.528
LRF2N014	51' 9.79	2'56.22	ST339411	87.	558	39	34	15	2.22	.360
LRF2N014	51' 9.83	2'56.55	ST335412	78.	803	54.7	59.4	23.2	3.25	.518
LRF2N015	51' 9.89	2'55.56	ST347412	127	677	51.2	61.5	22.7	2.89	.5
LRF2N015	51' 9.95	2'55.89	ST343414	128	423	34.5	43.5	15.6	1.87	.340
LRF2N016	51' 9.97	2'54.72	ST357414	103	515	68.3	51.7	24.7	2.56	.469
LRF2N016	51' 9.97	2'55.17	ST351414	98.	544	46.2	50	19.6	2.38	.430
LRF2N017	51' 9.97	2' 54	ST365414	106	396	35.5	39	15.1	1.75	.319
LRF2N017	51' 9.97	2'54.33	ST361414	108	652	54	50.7	21.2	2.75	.460
LRF2N018	51' 9.96	2'53.32	ST373413	93.	646	54.5	50.2	21.5	2.75	.460
LRF2N018	51' 9.97	2'53.66	ST369414	96.	532	48.5	51.9	20.2	2.39	.409
LRF2N019	51' 9.95	2'52.52	ST383413	100	180	15.3	13.3	5.90	.768	.128
LRF2N019	51' 9.96	2'52.94	ST378413	102	444	59.5	38	20.2	2.18	.360
LRF2N020	51' 9.82	2' 51.6	ST394411	89.	168	7.92	14	4.34	.648	.108
LRF2N020	51' 9.91	2'52.07	ST388412	91.	184	16.2	18.2	7.03	.819	.140
LRF2O001	51' 9.42	3' 8.11	ST198405	78.	1522	57	76.3	26.7	5.36	.740
LRF2O001	51' 9.41	3' 7.75	ST202405	84.	1403	40.5	72.0	22.2	4.82	.680
LRF2O002	51' 9.41	3' 7.41	ST206405	97.	982	42.4	45.2	17.7	3.5	.540
LRF2O002	51' 9.41	3' 7.09	ST210405	85.	851	42.5	50.2	18.7	3.18	.490
LRF2O003	51' 9.41	3' 6.76	ST214405	86.	950	38	53.7	18.2	3.42	.5
LRF2O003	51' 9.40	3' 6.43	ST218405	78.	1065	35.7	54	17.7	3.71	.540
LRF2O004	51' 9.40	3' 6.1	ST222405	81.	1226	42.9	60.2	20.7	4.28	.610
LRF2O004	51' 9.38	3' 5.77	ST226405	83.	1212	48.9	64	22.7	4.34	.638
LRF2O005	51' 9.37	3' 5.44	ST230404	89.	1001	33	46.5	15.8	3.45	.509
LRF2O005	51' 9.34	3' 5.11	ST234403	94.	1046	36.2	39.9	15.5	3.55	.509
LRF2O006	51' 9.33	3' 4.77	ST238403	86.	893	27.6	47.4	14.8	3.08	.460
LRF2O006	51' 9.33	3' 4.43	ST242403	82.	856	30.2	54.7	16.7	3.06	.449
LRF2O007	51' 9.32	3' 4.06	ST246403	96.	659	22.2	46	13.3	2.39	.388
LRF2O007	51' 9.32	3' 3.67	ST251403	100	461	31	37	13.6	1.87	.319
LRF2O008	51' 9.33	3' 3.3	ST255403	94	646	43.2	39.7	17	2.53	.400
LRF2O008	51' 9.33	3' 2.93	ST259403	106	642	32.2	45	15.5	2.45	.409
LRF2O009	51' 9.35	3' 2.55	ST264403	95.	769	37.4	57.5	18.7	2.95	.479
LRF2O009	51' 9.38	3' 2.16	ST269404	88.	694	36.4	58.7	18.7	2.74	.460
LRF2O010	51' 9.41	3' 1.74	ST274404	90.	713	47.7	66.4	22.7	2.98	.5
LRF2O010	51' 9.42	3' 1.31	ST279404	90.	749	38.4	68.4	21.1	2.98	.490
LRF2O011	51' 9.43	3' .87	ST284405	87	814	31.7	70.4	20	3.07	.509
LRF2O011	51' 9.45	3' .43	ST289405	90	792	38.4	59.4	19.5	3.01	.490
LRF2O012	51' 9.47	2'59.96	ST295405	87.	799	32.9	67	19.6	3.02	.5
LRF2O012	51' 9.5	2'59.47	ST300406	87.	774	37	63	19.7	2.99	.490
LRF2O013	51' 9.51	2'58.98	ST306406	92	433	23.7	29.2	10.6	1.65	.280
LRF2O013	51' 9.52	2'58.49	ST312406	96.	504	37	49.5	17.2	2.16	.400
LRF2O014	51' 9.52	2'58.02	ST318406	92.	773	35.9	64.4	19.7	2.99	.490
LRF2O014	51' 9.51	2'57.57	ST323406	98	759	26.1	58.9	16.6	2.77	.439
LRF2O015	51' 9.52	2'57.11	ST328406	84.	1007	43.2	54	19.6	3.64	.550
LRF2O015	51' 9.55	2'56.66	ST334407	96	778	47	55.5	20.7	3.05	.479
LRF2O016	51' 9.57	2' 56.2	ST339407	94.	773	45.9	54.2	20.2	3.01	.509

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2O016	51' 9.58	2'55.73	ST345406	100	705	49	56	21.2	2.90	.490
LRF2O017	51' 9.60	2'55.28	ST350407	91.	637	43.7	44.5	18	2.55	.418
LRF2O017	51' 9.63	2'54.85	ST355407	80.	666	40.2	42.7	16.7	2.57	.400
LRF2O018	51' 9.62	2'54.43	ST360407	92.	745	50.7	56.2	21.7	3.01	.479
LRF2O018	51' 9.60	2'54.02	ST365407	88.	682	51.9	54.5	21.7	2.84	.449
LRF2O019	51' 9.51	2'53.62	ST370405	91.	641	42.7	45.2	17.7	2.55	.409
LRF2O019	51' 9.46	2'53.23	ST374404	89.	666	56.9	49.5	21.7	2.82	.479
LRF2O020	51' 9.43	2' 52.8	ST379404	91.	646	44.2	49.2	19	2.63	.460
LRF2O020	51' 9.43	2'52.35	ST385404	95.	549	41.7	43.4	17.2	2.28	.388
LRF2P001	51' 8.90	3' 7.16	ST209396	96.	704	46	50.9	19.7	2.80	.449
LRF2P001	51' 8.93	3' 7.49	ST205396	88.	699	53	55.7	22.1	2.92	.469
LRF2P002	51' 8.95	3' 6.33	ST219397	88.	965	41	62.5	20.7	3.54	.540
LRF2P002	51' 9.01	3' 6.78	ST214398	96.	680	42.9	48.5	18.5	2.70	.430
LRF2P003	51' 9.04	3' 5.43	ST230398	88.	1033	38.2	41.5	16.2	3.54	.509
LRF2P003	51' 9.03	3' 5.88	ST225398	89	967	41.7	48.7	18.2	3.48	.518
LRF2P004	51' 9.08	3' 4.57	ST240398	97.	704	35.7	53.4	17.7	2.72	.439
LRF2P004	51' 9.05	3' 4.99	ST235398	98.	860	37.9	66	20.6	3.25	.528
LRF2P005	51' 9.21	3' 3.75	ST250400	89.	710	34.2	44.2	15.8	2.65	.418
LRF2P005	51' 9.13	3' 4.16	ST245399	96.	796	36.9	37.7	15.1	2.85	.439
LRF2P006	51' 9.21	3' 2.87	ST260400	104	491	34.7	42	15.5	2.03	.349
LRF2P006	51' 9.24	3' 3.32	ST255401	105	597	32	41.2	14.8	2.28	.379
LRF2P007	51' 9.21	3' 1.98	ST271400	94.	764	49.4	62	22.5	3.09	.509
LRF2P007	51' 9.2	3' 2.43	ST265400	93.	776	36.2	64.4	19.7	3	.479
LRF2P008	51' 9.24	3' 1.04	ST282401	102	758	41.4	64.3	21.1	3	.5
LRF2P008	51' 9.22	3' 1.52	ST276401	94.	747	40	66.5	21.2	2.98	.490
LRF2P009	51' 9.25	3' .23	ST291401	82.	636	36.7	63.7	19.7	2.60	.418
LRF2P009	51' 9.26	3' .62	ST287401	94.	723	52	69.4	24.2	3.06	.509
LRF2P010	51' 9.24	2'59.44	ST301401	88.	292	22.2	27.2	10	1.25	.218
LRF2P010	51' 9.26	2'59.84	ST296401	77.	732	36.5	57.4	18.7	2.81	.430
LRF2P011	51' 9.3	2'58.72	ST309402	95.	667	48.7	52	20.5	2.75	.449
LRF2P011	51' 9.25	2'59.07	ST305401	98.	570	40.5	52.2	18.7	2.40	.418
LRF2P012	51' 9.34	2'58.01	ST318403	83.	843	37.4	74.5	22	3.25	.509
LRF2P012	51' 9.33	2'58.37	ST313403	87.	764	50	69	23.7	3.16	.509
LRF2P013	51' 9.26	2'57.27	ST326401	95.	609	31.5	52	16.6	2.40	.388
LRF2P013	51' 9.32	2'57.64	ST322403	91.	746	43.7	60.7	21	2.98	.490
LRF2P014	51' 9.32	2'56.54	ST335403	109	754	48.5	49	19.7	2.97	.490
LRF2P014	51' 9.37	2' 56.9	ST331403	90	638	39.2	47.5	17.5	2.52	.430
LRF2P015	51' 9.41	2'55.99	ST342404	94.	581	62.7	49.5	23.2	2.67	.460
LRF2P015	51' 9.37	2'56.24	ST339403	90.	736	62.5	55.9	24.2	3.14	.509
LRF2P016	51' 9.39	2' 55.1	ST352403	100	538	55.7	50	21.7	2.48	.418
LRF2P016	51' 9.42	2'55.61	ST346403	95.	710	59.2	60.9	24.5	3.05	.5
LRF2P017	51' 9.26	2'54.17	ST363400	86	798	67.5	67.9	27.6	3.45	.578
LRF2P017	51' 9.25	2'54.62	ST358400	95	791	56.4	58.7	23.2	3.24	.509
LRF2P018	51' 9.24	2'53.37	ST373400	85	545	41.4	44.5	17.5	2.27	.379
LRF2P018	51' 9.2	2'53.75	ST368399	86	636	50	52.5	20.7	2.70	.460
LRF2P019	51' 9.14	2'52.58	ST382398	85.	439	34.4	40	15.1	1.87	.340
LRF2P019	51' 9.13	2'52.98	ST377398	79	584	51	36.4	18.2	2.45	.388
LRF2P020	51' 9.12	2'51.77	ST391398	89.	489	33.7	36	14.1	1.99	.340
LRF2P020	51' 9.13	2'52.18	ST387398	85.	650	55.2	56.2	22.7	2.80	.469
LRF2Q001	51' 8.77	3' 8.21	ST197393	83.	867	40	47.7	17.7	3.17	.479
LRF2Q001	51' 8.79	3' 7.8	ST202394	87.	771	26.6	49.7	15.1	2.75	.439
LRF2Q002	51' 8.8	3' 7.41	ST206394	92	679	35.2	55	18	2.66	.430
LRF2Q002	51' 8.8	3' 7.02	ST211394	99	946	44.9	56	20.2	3.5	.550
LRF2Q003	51' 8.81	3' 6.64	ST216394	102	827	38.2	56.4	18.7	3.08	.5
LRF2Q003	51' 8.81	3' 6.28	ST220394	105	763	42.5	56.4	19.7	2.98	.5
LRF2Q004	51' 8.83	3' 5.95	ST224394	87.	805	39.7	61.2	20.1	3.08	.509
LRF2Q004	51' 8.84	3' 5.64	ST227395	94.	796	44.5	61.2	21.2	3.13	.5
LRF2Q005	51' 8.85	3' 5.31	ST231394	105	746	39.5	49.7	18	2.83	.460
LRF2Q005	51' 8.86	3' 4.96	ST235394	89.	746	33.7	52.4	17.2	2.78	.449
LRF2Q006	51' 8.88	3' 4.61	ST240394	85.	523	33.5	53	17.2	2.20	.370
LRF2Q006	51' 8.89	3' 4.28	ST243395	93.	586	34.9	55.2	17.7	2.40	.388
LRF2Q007	51' 8.91	3' 3.92	ST248395	97.	614	32.5	41.7	14.8	2.33	.370

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2Q007	51' 8.92	3' 3.55	ST252395	96.	516	24.2	31.7	11.3	1.90	.319
LRF2Q008	51' 8.93	3' 3.16	ST257395	97	511	27.6	36	12.8	1.97	.340
LRF2Q008	51' 8.94	3' 2.75	ST262395	91.	654	35.2	46.4	16.2	2.51	.418
LRF2Q009	51' 8.94	3' 2.37	ST266395	92.	780	36	55	18.2	2.94	.479
LRF2Q009	51' 8.95	3' 2.02	ST270396	90	823	32.5	43	15.1	2.93	.430
LRF2Q010	51' 8.95	3' 1.64	ST275396	93.	858	32.7	45.9	15.6	3.03	.460
LRF2Q010	51' 8.95	3' 1.24	ST279396	92.	890	33.5	38.4	14.6	3.07	.479
LRF2Q011	51' 8.95	3' .83	ST284396	96.	616	30.7	55.5	17.1	2.44	.430
LRF2Q011	51' 8.95	3' .4	ST289396	96.	687	36.4	52	17.7	2.67	.439
LRF2Q012	51' 8.95	2'59.98	ST294396	106	501	23.7	30.7	11	1.87	.310
LRF2Q012	51' 8.95	2'59.55	ST299396	95.	476	28.1	35.7	12.8	1.87	.319
LRF2Q013	51' 8.95	2'59.09	ST305396	104	380	24.2	34.2	11.6	1.54	.270
LRF2Q013	51' 8.95	2'58.61	ST311396	96	594	25.7	46.9	14.3	2.25	.379
LRF2Q014	51' 8.94	2'58.16	ST316395	96.	658	31.6	50.9	16.2	2.51	.430
LRF2Q014	51' 8.93	2'57.73	ST321395	104	626	26.7	45.5	14.3	2.32	.388
LRF2Q015	51' 8.92	2'57.26	ST327395	100	594	27.2	55	16.2	2.31	.418
LRF2Q015	51' 8.91	2'56.77	ST332395	98.	622	33.9	46	16	2.42	.409
LRF2Q016	51' 8.88	2'56.28	ST338394	93.	749	30.6	47	15.5	2.74	.430
LRF2Q016	51' 8.86	2'55.79	ST344394	95.	858	29.7	57.7	17.2	3.08	.469
LRF2Q017	51' 8.86	2' 55.3	ST350393	94	835	33.5	49.2	16.5	3.00	.469
LRF2Q017	51' 8.87	2'54.79	ST356393	97	1074	44.7	58	20.7	3.85	.610
LRF2Q018	51' 8.88	2'54.33	ST361393	99	980	47.5	60.7	21.7	3.66	.600
LRF2Q018	51' 8.89	2'53.94	ST366394	99.	631	46.2	48.9	19.2	2.59	.439
LRF2Q019	51' 8.89	2'53.53	ST371394	94.	614	52	47.2	20.2	2.60	.460
LRF2Q019	51' 8.89	2' 53.1	ST376394	85.	747	51.5	44.9	19.7	2.96	.5
LRF2Q020	51' 8.89	2'52.68	ST381394	81.	709	50.7	51	20.7	2.89	.460
LRF2Q020	51' 8.88	2'52.29	ST385393	87.	643	42	44.7	17.7	2.55	.430
LRF2R001	51' 8.5	3' 7.23	ST209388	102	735	36	51.2	17.5	2.77	.460
LRF2R001	51' 8.5	3' 7.66	ST203388	97.	758	37.7	65.9	20.5	2.98	.490
LRF2R002	51' 8.49	3' 6.33	ST219388	89.	681	39	58.2	19.2	2.73	.439
LRF2R002	51' 8.5	3' 6.78	ST214388	77	768	47	72	23.7	3.16	.518
LRF2R003	51' 8.51	3' 5.38	ST230389	101	562	30.5	44.4	15	2.21	.379
LRF2R003	51' 8.5	3' 5.86	ST225388	99	543	42.5	48.4	18.2	2.30	.400
LRF2R004	51' 8.54	3' 4.56	ST240388	96.	784	35	55	18	2.94	.469
LRF2R004	51' 8.53	3' 4.94	ST236388	93	524	43	38.4	16.7	2.21	.370
LRF2R005	51' 8.52	3' 3.65	ST251388	89.	995	29.1	46.5	15.1	3.39	.5
LRF2R005	51' 8.51	3' 4.06	ST246388	85	945	31.2	64.3	18.7	3.40	.528
LRF2R006	51' 8.49	3' 2.75	ST262387	88.	1155	39	67	21	4.09	.620
LRF2R006	51' 8.51	3' 3.21	ST256388	89.	1078	42.7	53	19.2	3.80	.560
LRF2R007	51' 8.51	3' 1.79	ST273388	90.	884	39.2	50	18	3.23	.490
LRF2R007	51' 8.49	3' 2.28	ST267387	86.	1128	41.5	60.5	20.2	4	.588
LRF2R008	51' 8.50	3' .8	ST285387	93.	868	35.4	47	16.6	3.10	.469
LRF2R008	51' 8.53	3' 1.29	ST279388	93.	574	35.4	45.4	16.2	2.29	.388
LRF2R009	51' 8.59	2'59.82	ST296389	96.	692	37.7	61	19.6	2.75	.469
LRF2R009	51' 8.58	3' .31	ST290389	92.	708	48	56.2	21.1	2.89	.469
LRF2R010	51' 8.58	2' 58.9	ST307389	94.	416	29.6	34	12.8	1.72	.289
LRF2R010	51' 8.59	2'59.35	ST302389	100	586	32.5	50.2	16.5	2.32	.388
LRF2R011	51' 8.51	2'57.93	ST319388	97.	598	41	33.7	15.3	2.33	.388
LRF2R011	51' 8.57	2'58.43	ST313389	104	487	28	42.4	14	1.96	.349
LRF2R012	51' 8.49	2'56.95	ST330387	98.	414	31.2	34.9	13.3	1.74	.319
LRF2R012	51' 8.49	2'57.44	ST324387	101	562	34	60.5	18.7	2.34	.418
LRF2R013	51' 8.51	2'56.12	ST340388	90.	720	45.5	52.4	19.7	2.85	.460
LRF2R013	51' 8.5	2'56.51	ST335387	88.	652	37.2	48.5	17.2	2.54	.409
LRF2R014	51' 8.54	2'55.36	ST349387	102	1060	44.7	64.8	21.7	3.88	.588
LRF2R014	51' 8.53	2'55.74	ST345388	100	800	35.9	50.2	17.2	2.96	.460
LRF2R015	51' 8.55	2'54.57	ST358387	91.	1200	52	64.0	23.2	4.34	.648
LRF2R015	51' 8.54	2'54.97	ST354387	88.	1162	43.7	59	20.7	4.11	.610
LRF2R016	51' 8.55	2' 53.9	ST366387	90	1127	54.2	64.9	24.1	4.17	.638
LRF2R016	51' 8.55	2'54.21	ST363387	87.	1247	53.2	70.5	24.7	4.53	.670
LRF2R017	51' 8.58	2'53.25	ST374388	98.	1028	43.2	69.5	22.2	3.79	.610
LRF2R017	51' 8.59	2'53.58	ST370388	96	1010	47.4	62.5	22.1	3.75	.588
LRF2R018	51' 8.60	2'52.65	ST381388	98.	701	59.7	46.5	21.7	2.94	.518

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2R018	51' 8.59	2'52.94	ST378388	85.	675	47.2	47.2	19.2	2.73	.439
LRF2R019	51' 8.62	2'52.14	ST387389	93.	698	45.5	52.9	19.7	2.80	.479
LRF2R019	51' 8.61	2'52.39	ST384388	98.	796	60.7	51.9	23.2	3.25	.540
LRF2R020	51' 8.60	2'51.35	ST396388	82.	585	48.7	42.2	18.7	2.47	.418
LRF2R020	51' 8.60	2' 51.8	ST391388	97.	656	41.7	49.4	18.2	2.63	.439
LRF2S001	51' 8.22	3' 8.04	ST199383	98.	469	32.5	36	13.8	1.90	.340
LRF2S001	51' 8.23	3' 7.49	ST205383	97.	444	25.1	39.2	12.8	1.76	.319
LRF2S002	51' 8.24	3' 7.1	ST210384	86.	369	29.7	38.2	13.6	1.62	.310
LRF2S002	51' 8.23	3' 6.88	ST213383	99.	371	33.7	34.5	13.8	1.63	.319
LRF2S003	51' 8.23	3' 6.59	ST216383	93.	463	38	42	16.2	2	.360
LRF2S003	51' 8.25	3' 6.23	ST220384	93.	579	32.2	47	15.8	2.27	.400
LRF2S004	51' 8.25	3' 5.87	ST225384	95.	702	25.5	43.7	13.6	2.50	.430
LRF2S004	51' 8.25	3' 5.5	ST229384	95	889	28.7	50.7	15.8	3.10	.479
LRF2S005	51' 8.25	3' 5.12	ST234383	82.	1327	34.7	44.5	16	4.34	.588
LRF2S005	51' 8.23	3' 4.75	ST238382	85.	842	29.1	55	16.6	3.01	.479
LRF2S006	51' 8.22	3' 4.38	ST242382	94.	757	38.2	49.2	17.6	2.84	.469
LRF2S006	51' 8.21	3' 4.04	ST246382	89	771	28.5	65	18.2	2.90	.479
LRF2S007	51' 8.21	3' 3.66	ST251382	87.	881	39.7	55	19	3.25	.5
LRF2S007	51' 8.22	3' 3.26	ST256382	86.	919	31.6	56.4	17.2	3.26	.479
LRF2S008	51' 8.23	3' 2.87	ST260382	92.	847	38.7	35	15.1	3.00	.469
LRF2S008	51' 8.23	3' 2.48	ST265382	102	897	31.1	32.4	12.8	3.02	.460
LRF2S009	51' 8.25	3' 2.05	ST270383	93.	1142	41.5	31.7	15.1	3.81	.540
LRF2S009	51' 8.26	3' 1.58	ST275383	87.	1027	34.5	38.2	14.8	3.48	.509
LRF2S010	51' 8.27	3' 1.09	ST281383	93.	902	22.5	39.5	12.3	3	.460
LRF2S010	51' 8.28	3' .58	ST287383	88.	956	35	44	16	3.31	.479
LRF2S011	51' 8.34	3' .04	ST294384	99.	495	36.5	39.2	15.3	2.04	.360
LRF2S011	51' 8.43	2'59.47	ST300386	102	504	26.1	44	13.8	1.99	.340
LRF2S012	51' 8.47	2'58.96	ST306387	103	398	19	26.5	9.10	1.5	.25
LRF2S012	51' 8.46	2'58.52	ST312387	85.	524	34.2	49.5	16.7	2.18	.370
LRF2S013	51' 8.38	2'58.16	ST316385	89.	587	30.6	48.9	15.8	2.29	.388
LRF2S013	51' 8.22	2'57.87	ST319382	88.	593	26.2	41.9	13.6	2.22	.370
LRF2S014	51' 8.13	2'57.52	ST323381	91.	546	36.5	49	17.2	2.25	.388
LRF2S014	51' 8.12	2'57.12	ST328380	91.	518	28.1	46.7	14.8	2.05	.370
LRF2S015	51' 8.16	2'56.68	ST333381	93.	498	18.7	32.2	10.1	1.79	.300
LRF2S015	51' 8.17	2' 56.2	ST339381	90	518	29.1	34.2	12.8	2	.340
LRF2S016	51' 8.33	2'55.72	ST345384	96.	667	38.9	45.7	17.1	2.58	.439
LRF2S016	51' 8.36	2'55.23	ST351384	95.	840	44.4	49.5	19.1	3.16	.5
LRF2S017	51' 8.36	2'54.75	ST356384	110	899	47.2	45.5	19	3.31	.528
LRF2S017	51' 8.35	2'54.28	ST362384	93	1115	32.2	59.5	18.1	3.82	.569
LRF2S018	51' 8.34	2'53.84	ST367383	94.	1105	33.5	43.7	15.5	3.72	.578
LRF2S018	51' 8.35	2'53.43	ST372384	95.	1261	43.2	59	20.5	4.36	.638
LRF2S019	51' 8.36	2' 53	ST377384	93.	1168	51.9	61.7	23	4.23	.648
LRF2S019	51' 8.37	2'52.56	ST382384	84	1135	47.5	69.9	23.5	4.15	.648
LRF2S020	51' 8.35	2'52.21	ST386384	88	874	51.9	53	21.2	3.35	.540
LRF2S020	51' 8.33	2'51.95	ST389383	89.	730	50.7	56.7	21.7	2.99	.5
LRF2T001	51' 7.67	3' 6.73	ST214373	88.	799	38.2	55.5	18.7	3.00	.479
LRF2T001	51' 7.66	3' 7.2	ST209373	86.	949	46.5	64.5	22.2	3.57	.569
LRF2T002	51' 7.73	3' 5.72	ST226374	96.	851	34.2	60	18.7	3.15	.490
LRF2T002	51' 7.69	3' 6.23	ST220373	106	782	38.5	48.4	17.5	2.93	.449
LRF2T003	51' 7.85	3' 4.84	ST237375	81	1043	41	66.5	21.2	3.78	.569
LRF2T003	51' 7.78	3' 5.25	ST232374	82.	906	39.4	66.9	21.1	3.41	.528
LRF2T004	51' 7.99	3' 4.05	ST246378	83.	980	42	67	21.7	3.64	.540
LRF2T004	51' 7.92	3' 4.44	ST242377	81.	1141	42.2	52.5	19.1	3.98	.588
LRF2T005	51' 8.04	3' 3.27	ST255379	87	1123	30.5	46.2	15.3	3.75	.540
LRF2T005	51' 8.03	3' 3.66	ST251379	89	816	38.2	55.2	18.7	3.05	.469
LRF2T006	51' 8.09	3' 2.44	ST265380	97.	1108	33	51	16.7	3.75	.560
LRF2T006	51' 8.07	3' 2.86	ST260379	84.	1104	40.5	47.7	17.7	3.81	.578
LRF2T007	51' 8.16	3' 1.66	ST274381	97	651	29.7	31.7	12.5	2.33	.388
LRF2T007	51' 8.13	3' 2.04	ST270381	93.	1133	32.7	50.5	16.6	3.82	.540
LRF2T008	51' 8.16	3' .86	ST284381	99.	802	38	36.2	15.1	2.89	.449
LRF2T008	51' 8.17	3' 1.27	ST279381	99	719	21.6	34.2	11.1	2.46	.379
LRF2T009	51' 8.41	3' .21	ST292386	99.	578	31.2	46.5	15.5	2.25	.409

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2T009	51' 8.24	3' .5	ST288383	92.	822	33.5	67.4	19.7	3.09	.490
LRF2T010	51' 8.59	2'59.18	ST304389	111	331	26.2	29.5	11.3	1.40	.270
LRF2T010	51' 8.53	2'59.77	ST297388	117	576	29.6	48.7	15.6	2.25	.379
LRF2T011	51' 8.24	2'58.04	ST317383	121	561	24.7	43	13.5	2.13	.370
LRF2T011	51' 8.49	2' 58.6	ST311387	121	461	28	35	12.6	1.84	.310
LRF2T012	51' 8.11	2'57.02	ST329380	97.	463	24.2	37.7	12.3	1.79	.330
LRF2T012	51' 8.11	2'57.51	ST324380	97.	581	28.5	51	15.6	2.26	.388
LRF2T013	51' 8.12	2'56.21	ST339380	100	569	21	42.5	12.5	2.08	.360
LRF2T013	51' 8.11	2'56.58	ST335380	90.	472	25.2	37	12.3	1.84	.289
LRF2T014	51' 8.11	2'55.53	ST347379	89.	532	28	35.2	12.8	2.01	.330
LRF2T014	51' 8.12	2'55.86	ST343380	86.	478	30.5	41.7	14.5	1.96	.330
LRF2T015	51' 8.13	2'54.85	ST355380	90.	819	30.7	36	13.5	2.83	.418
LRF2T015	51' 8.12	2' 55.2	ST351379	87.	681	28.2	45.2	14.6	2.5	.388
LRF2T016	51' 8.15	2' 54.1	ST364380	96.	1029	37	58.7	19	3.66	.550
LRF2T016	51' 8.14	2'54.49	ST359380	90.	980	26.5	59.4	16.7	3.41	.509
LRF2T017	51' 8.15	2' 53.4	ST372380	84	1118	54	63	23.7	4.13	.638
LRF2T017	51' 8.16	2'53.73	ST368380	95.	1170	49.7	56.7	21.6	4.17	.629
LRF2T018	51' 8.15	2'52.77	ST380380	88.	1244	58.5	62.5	24.6	4.53	.670
LRF2T018	51' 8.15	2'53.08	ST376380	100	1095	51.5	59.5	22.5	4.01	.620
LRF2T019	51' 8.15	2' 52.1	ST388380	84.	984	53.7	66.3	24.2	3.77	.610
LRF2T019	51' 8.15	2'52.45	ST383380	85.	1327	56.9	64	24.5	4.75	.699
LRF2T020	51' 8.08	2' 51.2	ST398379	90.	818	45.5	59.4	21.1	3.19	.518
LRF2T020	51' 8.13	2'51.69	ST392380	87.	755	52.7	60	22.7	3.08	.509
LRF2U001	51' 7.81	3' 7.92	ST200376	98.	693	46.2	46.5	18.7	2.75	.449
LRF2U001	51' 7.84	3' 7.4	ST207376	97.	619	41	52.2	18.7	2.52	.430
LRF2U002	51' 7.85	3' 6.97	ST212376	79.	767	47.2	51	20	3	.479
LRF2U002	51' 7.84	3' 6.62	ST216376	85.	1060	45	54	20	3.79	.600
LRF2U003	51' 7.84	3' 6.31	ST219376	97.	1127	35.2	60.2	18.7	3.91	.610
LRF2U003	51' 7.83	3' 6.04	ST223376	95	872	45.9	48.4	19.2	3.25	.518
LRF2U004	51' 7.82	3' 5.76	ST226376	85.	1285	40.5	69.5	21.7	4.48	.648
LRF2U004	51' 7.83	3' 5.45	ST230376	95.	1001	45.5	55.5	20.2	3.66	.578
LRF2U005	51' 7.85	3' 5.06	ST234375	94.	888	41.4	58.9	20.1	3.31	.528
LRF2U005	51' 7.88	3' 4.59	ST240376	93.	1009	42.5	51.2	19	3.60	.540
LRF2U006	51' 7.91	3' 4.16	ST245376	99.	998	43.5	59	20.6	3.65	.560
LRF2U006	51' 7.93	3' 3.75	ST250377	93.	858	38	41.9	16.2	3.06	.490
LRF2U007	51' 7.96	3' 3.33	ST255377	103	935	28.7	38.7	13.5	3.16	.490
LRF2U007	51' 7.99	3' 2.89	ST260378	95.	1294	36	50.7	17.2	4.30	.620
LRF2U008	51' 7.99	3' 2.46	ST265378	90.	1342	42.9	65	21.5	4.63	.689
LRF2U008	51' 7.96	3' 2.03	ST270377	76.	1183	37.7	63.9	20.1	4.11	.620
LRF2U009	51' 7.96	3' 1.61	ST275377	91.	1274	49.5	61.9	22.5	4.5	.680
LRF2U009	51' 7.96	3' 1.18	ST280377	100	949	31	44.2	15.1	3.25	.509
LRF2U010	51' 8.02	3' .73	ST285378	93.	825	38	43.4	16.5	3	.460
LRF2U010	51' 8.13	3' .26	ST291381	94.	834	38.7	50.7	18	3.07	.490
LRF2U011	51' 8.28	2'59.75	ST297383	135	407	26.2	35.9	12.5	1.65	.319
LRF2U011	51' 8.47	2'59.21	ST303387	148	339	15.8	29.2	8.89	1.32	.270
LRF2U012	51' 8.49	2'58.73	ST309387	122	372	29.7	31.2	12.5	1.59	.310
LRF2U012	51' 8.35	2' 58.3	ST314385	102	517	27.7	44.5	14.3	2.03	.340
LRF2U013	51' 8.21	2'57.93	ST319382	91.	551	23.7	39.9	12.6	2.05	.370
LRF2U013	51' 8.06	2'57.62	ST322379	82.	660	45.9	39	17.5	2.60	.430
LRF2U014	51' 7.98	2'57.26	ST327378	91.	690	28.1	58.4	17	2.63	.439
LRF2U014	51' 7.98	2'56.87	ST331378	90.	404	26.5	29.2	11.3	1.62	.289
LRF2U015	51' 7.97	2'56.45	ST336378	95.	466	21.7	34.2	11.1	1.75	.289
LRF2U015	51' 7.97	2'56.02	ST341378	95.	561	22.6	38.7	12.1	2.05	.340
LRF2U016	51' 7.97	2'55.58	ST346377	98	475	16.6	36	10.3	1.75	.300
LRF2U016	51' 7.96	2'55.14	ST352376	93.	475	20.2	29.2	9.93	1.74	.300
LRF2U017	51' 7.96	2'54.71	ST357376	99	552	17.1	28.6	9.06	1.89	.280
LRF2U017	51' 7.95	2'54.31	ST361376	101	919	30	44.4	14.8	3.17	.479
LRF2U018	51' 7.94	2'53.94	ST366376	100	1146	37.7	54.7	18.5	3.96	.629
LRF2U018	51' 7.93	2'53.62	ST370376	104	1295	48	54	20.7	4.48	.648
LRF2U019	51' 7.9	2'53.28	ST374375	79.	1265	37.5	55.2	18.6	4.28	.638
LRF2U019	51' 7.86	2'52.91	ST378375	86.	1218	42	53	19.2	4.19	.638
LRF2U020	51' 7.84	2'52.57	ST382374	92	1277	36	61.7	19.2	4.34	.648

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2U020	51' 7.85	2'52.25	ST386374	89.	1033	46.2	50	19.5	3.72	.610
LRF2V001	51' 7.5	3' 6.93	ST212370	89	668	34.5	52	17.2	2.58	.430
LRF2V001	51' 7.49	3' 7.31	ST208370	74.	880	43.7	59.4	20.7	3.31	.518
LRF2V002	51' 7.51	3' 6.16	ST221370	95.	933	35.5	60	18.7	3.39	.540
LRF2V002	51' 7.5	3' 6.55	ST217370	86	717	45.2	53	19.7	2.84	.449
LRF2V003	51' 7.49	3' 5.42	ST230370	86.	1152	36.2	64.5	19.7	4.01	.600
LRF2V003	51' 7.5	3' 5.79	ST226370	83	922	46.2	58.2	21.1	3.47	.540
LRF2V004	51' 7.44	3' 4.71	ST238368	84.	903	43.7	63	21.2	3.43	.550
LRF2V004	51' 7.47	3' 5.06	ST234368	86.	1006	45.2	69	22.7	3.75	.569
LRF2V005	51' 7.41	3' 4	ST247367	86	770	39.5	62	20.2	3	.5
LRF2V005	51' 7.42	3' 4.35	ST243367	82.	977	51.4	60.5	22.6	3.70	.540
LRF2V006	51' 7.45	3' 3.14	ST257368	95.	1100	46.7	57.7	21.1	3.96	.620
LRF2V006	51' 7.42	3' 3.59	ST252367	90.	1131	49.5	64	22.7	4.11	.629
LRF2V007	51' 7.45	3' 2.21	ST268368	86.	732	34.4	49.7	16.7	2.75	.439
LRF2V007	51' 7.46	3' 2.68	ST262368	90	913	32.5	66.3	19.2	3.32	.528
LRF2V008	51' 7.29	3' 1.35	ST278365	95.	835	43.2	49.2	18.7	3.14	.5
LRF2V008	51' 7.4	3' 1.77	ST273367	97.	786	33	48.7	16.2	2.88	.469
LRF2V009	51' 6.88	3' .41	ST289357	98	848	34.4	52.2	17.2	3.07	.509
LRF2V009	51' 7.11	3' .9	ST283362	93.	779	38.5	55	18.7	2.97	.5
LRF2V010	51' 6.9	2'59.32	ST302358	100	500	32.4	39.5	14.5	2.01	.360
LRF2V010	51' 6.81	2'59.89	ST295356	99.	614	27.2	56	16.2	2.39	.418
LRF2V011	51' 7.3	2'58.47	ST312365	98.	487	24.7	44	13.6	1.91	.340
LRF2V011	51' 7.06	2'58.85	ST308361	93.	305	27.2	27.1	11.1	1.35	.230
LRF2V012	51' 7.56	2'57.69	ST321370	102	628	31.7	57.5	17.7	2.5	.439
LRF2V012	51' 7.47	2'58.08	ST317368	97.	567	33.7	46.2	16.1	2.25	.388
LRF2V013	51' 7.55	2'56.79	ST332370	94.	373	23.2	33.4	11.3	1.51	.25
LRF2V013	51' 7.59	2'57.26	ST327371	91	552	26.7	44.5	14.1	2.13	.349
LRF2V014	51' 7.54	2'55.96	ST342370	96.	410	11.8	34	8.89	1.5	.270
LRF2V014	51' 7.53	2'56.36	ST337369	86.	465	25	38.9	12.6	1.84	.319
LRF2V015	51' 7.56	2' 55.2	ST351369	94.	322	6.23	22.7	5.57	1.12	.180
LRF2V015	51' 7.55	2'55.57	ST347369	93.	356	20.5	24.5	9.09	1.37	.230
LRF2V016	51' 7.62	2'54.45	ST360370	93.	1219	44	51.7	19.2	4.21	.600
LRF2V016	51' 7.59	2'54.82	ST355370	92.	544	9.02	24	6.40	1.75	.280
LRF2V017	51' 7.56	2'53.71	ST369369	95.	1066	39	54	18.6	3.75	.569
LRF2V017	51' 7.61	2'54.08	ST364370	88.	1342	38.2	52	18.1	4.48	.670
LRF2V018	51' 7.55	2'52.97	ST377369	82.	1434	50	61.7	22.6	4.94	.708
LRF2V018	51' 7.54	2'53.34	ST373369	76.	1262	45.2	49.5	19.2	4.32	.638
LRF2V019	51' 7.57	2'52.24	ST386369	94	1061	33.5	54	17.2	3.67	.540
LRF2V019	51' 7.56	2' 52.6	ST382369	86.	918	28.2	49.7	15.5	3.19	.479
LRF2V020	51' 7.62	2'51.42	ST396370	94.	1065	35	45.7	16.2	3.64	.560
LRF2V020	51' 7.59	2'51.85	ST391370	87.	1230	41.5	67.5	21.7	4.32	.638
LRF2W001	51' 7.03	3' 7.83	ST201361	91.	714	44	50.2	19.1	2.80	.479
LRF2W001	51' 7.08	3' 7.47	ST206362	89	603	40.4	59.2	19.7	2.52	.460
LRF2W002	51' 7.13	3' 7.1	ST210363	92.	598	28.7	62	17.7	2.41	.449
LRF2W002	51' 7.17	3' 6.73	ST214364	107	588	35.5	54.7	18	2.41	.418
LRF2W003	51' 7.19	3' 6.39	ST218364	97.	746	37	42.4	16.1	2.75	.449
LRF2W003	51' 7.18	3' 6.08	ST222364	92.	896	24.1	40.5	12.8	3.00	.449
LRF2W004	51' 7.18	3' 5.79	ST226364	81.	732	30.2	54.5	16.7	2.74	.449
LRF2W004	51' 7.17	3' 5.52	ST229364	88.	641	31.7	45.2	15.3	2.44	.430
LRF2W005	51' 7.17	3' 5.24	ST232363	88.	699	30.6	49.9	16	2.60	.439
LRF2W005	51' 7.18	3' 4.95	ST236363	83.	672	45.7	51.5	19.7	2.74	.460
LRF2W006	51' 7.19	3' 4.65	ST239363	88.	781	28.5	56.9	16.7	2.85	.479
LRF2W006	51' 7.21	3' 4.36	ST243363	93.	969	30.1	62.2	18.1	3.44	.560
LRF2W007	51' 7.22	3' 4.01	ST247364	91.	753	37.4	51	17.7	2.84	.469
LRF2W007	51' 7.23	3' 3.6	ST252364	95.	658	28.7	49.5	15.6	2.49	.439
LRF2W008	51' 7.23	3' 3.18	ST256364	96.	669	37.7	53.2	18.2	2.65	.460
LRF2W008	51' 7.22	3' 2.75	ST262364	88.	472	20.2	37	11.3	1.77	.319
LRF2W009	51' 7.2	3' 2.34	ST266363	89.	186	7.76	7.01	3.01	.648	.100
LRF2W009	51' 7.17	3' 1.93	ST271363	90.	507	22.6	36	11.6	1.88	.319
LRF2W010	51' 7.14	3' 1.47	ST277362	82.	781	35.5	60.5	19	2.98	.490
LRF2W010	51' 7.09	3' .97	ST283361	75.	906	46.9	65	22.2	3.48	.550
LRF2W011	51' 7.09	3' .57	ST287361	79.	896	36.2	59.7	19.1	3.27	.528

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2W011	51' 7.16	3' .28	ST291363	135	709	29.7	47.4	15.3	2.60	.460
LRF2W012	51' 7.09	3' .01	ST294361	125	530	20.2	37	11.3	1.95	.360
LRF2W012	51' 6.89	2'59.76	ST297358	113	649	28.5	35.7	13	2.34	.400
LRF2W013	51' 6.83	2'59.39	ST301356	96.	542	32.9	40	14.6	2.15	.360
LRF2W013	51' 6.9	2'58.92	ST307358	103	499	16.5	41.7	11.3	1.85	.340
LRF2W014	51' 7.01	2'58.45	ST312360	105	525	27.2	40	13.3	2.02	.360
LRF2W014	51' 7.16	2'57.98	ST318363	90.	573	32	46.7	15.6	2.25	.379
LRF2W015	51' 7.24	2'57.43	ST325364	92.	615	26.6	45.7	14.3	2.29	.400
LRF2W015	51' 7.27	2'56.78	ST332365	88	677	30.2	52.2	16.2	2.55	.439
LRF2W016	51' 7.29	2'56.18	ST339365	76.	456	25.2	30.7	11.3	1.75	.289
LRF2W016	51' 7.3	2'55.65	ST346364	90	292	9.14	13.3	4.51	1	.188
LRF2W017	51' 7.3	2'55.17	ST351364	85	163	7.78	8.05	3.22	.588	9
LRF2W017	51' 7.29	2'54.75	ST356364	87.	229	9.42	7.40	3.48	.790	.119
LRF2W018	51' 7.29	2'54.29	ST362364	95.	297	8.47	11.8	4.07	.990	.150
LRF2W018	51' 7.3	2' 53.8	ST367364	94.	535	14	26.2	7.96	1.79	.270
LRF2W019	51' 7.3	2'53.32	ST373364	85.	705	21.1	26.5	9.56	2.34	.360
LRF2W019	51' 7.31	2'52.86	ST379364	87.	169	3.59	10.5	2.73	.578	.119
LRF2W020	51' 7.31	2' 52.4	ST384364	91.	106	4.65	8	2.5	.400	7
LRF2W020	51' 7.31	2'51.93	ST390364	96.	385	5.59	14.1	3.82	1.22	.188
LRF2X001	51' 7.04	3' 7.28	ST208361	86.	653	35.7	64.3	19.7	2.66	.469
LRF2X001	51' 6.99	3' 7.75	ST202360	90.	712	46.7	61.7	21.7	2.93	.5
LRF2X002	51' 7.07	3' 6.28	ST220362	89.	660	41.2	59.9	20.2	2.71	.439
LRF2X002	51' 7.06	3' 6.79	ST214362	82.	552	30.2	62.9	18.2	2.29	.418
LRF2X003	51' 7.02	3' 5.27	ST232360	89.	805	46.7	60.4	21.6	3.17	.509
LRF2X003	51' 7.05	3' 5.78	ST226362	94.	551	38.2	41	16.1	2.24	.400
LRF2X004	51' 6.96	3' 4.36	ST243359	85.	929	47.2	51.7	20.1	3.46	.518
LRF2X004	51' 6.99	3' 4.8	ST237359	87	706	35	63	19.2	2.76	.469
LRF2X005	51' 6.94	3' 3.55	ST252358	95	770	35	47.2	16.5	2.83	.479
LRF2X005	51' 6.95	3' 3.94	ST247359	103	710	29.2	59	17.2	2.70	.479
LRF2X006	51' 6.92	3' 2.74	ST262358	91.	976	46.4	60.7	21.5	3.64	.578
LRF2X006	51' 6.93	3' 3.15	ST257358	98.	952	44.5	61.7	21.2	3.54	.578
LRF2X007	51' 6.91	3' 1.91	ST271358	83.	988	47.5	65.0	22.6	3.72	.588
LRF2X007	51' 6.92	3' 2.32	ST267358	85.	1117	35.4	70	20.7	3.96	.620
LRF2X008	51' 6.87	3' 1.09	ST281357	100	1018	37.2	61.7	19.7	3.65	.578
LRF2X008	51' 6.89	3' 1.5	ST276358	97.	733	39.7	57	19.2	2.85	.5
LRF2X009	51' 6.8	3' .31	ST290356	96.	911	27.6	43.9	14.1	3.10	.460
LRF2X009	51' 6.84	3' .69	ST286357	86	924	41	52.5	18.7	3.38	.560
LRF2X010	51' 6.83	2'59.53	ST300356	94.	545	32.7	43.7	15.3	2.18	.360
LRF2X010	51' 6.8	2'59.92	ST295356	100	601	31.2	44.2	15.1	2.30	.400
LRF2X011	51' 6.91	2'58.33	ST314358	97.	405	22.5	35.5	11.6	1.62	.270
LRF2X011	51' 6.87	2' 59	ST306357	94.	612	25.7	32.2	11.6	2.20	.360
LRF2X012	51' 6.95	2'57.69	ST321359	101	567	26.2	47.5	14.6	2.19	.388
LRF2X012	51' 6.94	2' 57.9	ST319358	95.	506	23.6	49.7	14.3	2	.349
LRF2X013	51' 6.98	2'56.99	ST330359	98.	706	38.5	51.9	18.1	2.75	.449
LRF2X013	51' 6.97	2'57.38	ST325359	102	692	40.9	57	19.6	2.75	.449
LRF2X014	51' 6.98	2'56.16	ST340359	99.	643	35.2	49	16.7	2.50	.409
LRF2X014	51' 6.98	2'56.58	ST335359	100	718	32.5	53.7	17.2	2.72	.409
LRF2X015	51' 7	2'55.31	ST350359	102	426	21.7	29.7	10.3	1.62	.280
LRF2X015	51' 6.99	2'55.74	ST345359	110	511	33.2	39.4	14.6	2.04	.349
LRF2X016	51' 7.04	2'54.52	ST359359	97.	195	15.8	14.6	6.26	.819	.140
LRF2X016	51' 7.01	2'54.91	ST354359	99	262	5.44	17.5	4.42	.898	.158
LRF2X017	51' 7.12	2'53.66	ST369361	96.	160	9.60	9.93	3.98	.620	.100
LRF2X017	51' 7.07	2'54.11	ST364360	95.	208	7.48	7.84	3.10	.708	.119
LRF2X020	51' 7	2'51.15	ST399359	84.	1065	42.4	49.5	18.6	3.75	.569
LRF2X020	51' 7.06	2' 51.6	ST394360	90.	590	32.5	29.6	12.8	2.20	.330
LRF2Z003	51'12.84	3' 6.74	ST215469	86.	410	46.5	27	15.3	1.86	.330
LRF2Z003	51'12.82	3' 6.3	ST221468	89.	341	21.5	27.7	9.89	1.37	.280
LRF2Z004	51'12.83	3' 5.83	ST226468	99	365	27.2	24.2	10.6	1.49	.280
LRF2Z004	51' 12.9	3' 5.34	ST232469	96.	382	20.7	23.5	8.97	1.45	.25
LRF2Z005	51'13.02	3' 4.82	ST238471	94.	336	21.6	25.7	9.59	1.35	.25
LRF2Z005	51'13.19	3' 4.29	ST244474	98.	350	14.6	27.7	8.39	1.32	.230
LRF2Z006	51'13.34	3' 3.76	ST251477	88.	413	13.1	22.7	7.13	1.44	.238

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF2Z006	51'13.47	3' 3.23	ST257479	84.	324	11.8	23.5	6.94	1.19	.230
LRF2Z007	51'13.61	3' 2.7	ST263482	93.	335	22.7	25.7	9.88	1.37	.25
LRF2Z007	51'13.76	3' 2.17	ST269485	90.	418	24.6	20.2	9.26	1.57	.270
LRF2Z008	51'13.87	3' 1.62	ST276487	89.	449	21	28.7	10	1.66	.280
LRF2Z008	51'13.96	3' 1.05	ST283488	91.	385	16.2	26.7	8.59	1.41	.25
LRF2Z009	51' 13.9	3' .7	ST287487	85.	385	19.2	21.7	8.31	1.41	.25
LRF2Z009	51' 13.7	3' .54	ST289484	88.	316	6.59	20.2	5.21	1.09	.180
LRF2Z010	51'13.46	3' .54	ST289479	94.	343	16.7	28.2	8.93	1.33	.238
LRF2Z010	51'13.17	3' .67	ST287474	93.	345	17.2	19.7	7.55	1.27	.230
LRF2Z011	51' 12.9	3' .83	ST285469	97.	448	17.1	28.5	9.05	1.62	.280
LRF2Z011	51'12.66	3' 1	ST283464	95.	361	16.2	27.6	8.72	1.37	.25
LRF2Z012	51' 12.4	3' 1.14	ST282459	95.	431	17.7	25.2	8.64	1.54	.270
LRF2Z012	51'12.13	3' 1.25	ST279455	85	447	20.7	31	10.3	1.66	.310
LRF2Z013	51'11.91	3' 1.45	ST277450	89.	538	32.5	36.4	14	2.09	.370
LRF2Z013	51'11.74	3' 1.74	ST274447	94.	526	23.6	32.9	11.3	1.95	.340
LRF2Z014	51'11.63	3' 2.03	ST270445	94.	467	23.7	33.4	11.5	1.77	.310
LRF2Z014	51'11.58	3' 2.34	ST266444	82.	326	21.5	30.7	10.5	1.36	.25
LRF2Z015	51'11.49	3' 2.57	ST264443	91.	524	26	39.4	13	2.00	.340
LRF2Z015	51'11.36	3' 2.72	ST262440	97	505	33	41.5	15	2.04	.360
LRF2Z016	51'11.52	3' 2.1	ST269443	113	475	19.6	39.5	11.6	1.78	.330
LRF2Z016	51'11.97	3' .69	ST286452	101	681	34	49.2	16.6	2.59	.430
LRF2Z017	51'12.24	3' .01	ST295457	88.	417	25	27.2	10.6	1.62	.270
LRF2Z017	51'12.32	3' .05	ST295458	86	484	18.2	40.5	11.5	1.82	.310
LRF2Z018	51'12.27	3' .1	ST294457	91.	394	22.6	27.7	10.1	1.52	.270
LRF2Z018	51'12.09	3' .17	ST292454	88.	589	19.7	35.9	11	2.07	.349
LRF2Z019	51' 9.84	3' 2.03	ST270412	86.	569	25.2	40	13	2.14	.360
LRF2Z019	51' 9.91	3' 1.69	ST274413	86.	467	18.7	33.2	10.3	1.73	.310
LRF2Z020	51'10.09	3' 1.48	ST277417	90.	507	24.7	31.5	11.3	1.88	.330
LRF2Z020	51'10.36	3' 1.4	ST278422	84.	531	19.6	36.7	11.1	1.94	.340
LRF2Z021	51'10.49	3' 1.17	ST280424	85	549	22.5	36	11.6	2.00	.340
LRF2Z021	51'10.48	3' .78	ST285424	82.	524	24.7	43	13.5	2.01	.340
LRF2Z022	51'10.39	3' .47	ST289422	87.	584	30.2	36.2	13.5	2.21	.370
LRF2Z022	51'10.23	3' .24	ST291419	85.	607	25.6	48	14.5	2.28	.379
LRF3A001	50'39.45	4'27.92	SX265872	92.	378	37.5	36.2	15.1	1.73	.319
LRF3A001	50'39.13	4'27.99	SX265866	90.	433	41.2	47.4	18	2	.388
LRF3A002	50'38.86	4'28.03	SX264861	99.	296	29.7	33.7	12.8	1.38	.280
LRF3A002	50'38.61	4'28.04	SX264856	82.	288	17.7	21.7	8	1.13	.209
LRF3A003	50'38.33	4'28.04	SX263851	104	549	40.2	45.7	17.2	2.28	.418
LRF3A003	50'38.04	4'28.03	SX263846	91.	646	37.4	55.9	18.6	2.58	.449
LRF3A004	50'37.76	4'28.03	SX263841	86.	561	37.5	57.5	19	2.38	.418
LRF3A004	50' 37.5	4'28.04	SX263836	94.	770	45.9	79.0	24.7	3.20	.560
LRF3A005	50'37.25	4'28.05	SX263831	103	554	29.2	37.7	13.5	2.10	.370
LRF3A005	50'37.01	4'28.05	SX263827	90.	228	24	23.7	9.76	1.07	.200
LRF3A006	50'36.77	4'28.06	SX262822	93.	677	26	51.7	15.3	2.50	.388
LRF3A006	50'36.53	4'28.09	SX261818	97.	833	26.5	52.2	15.5	2.95	.449
LRF3A007	50'36.28	4'28.07	SX262813	92	608	30.7	50	16.1	2.38	.409
LRF3A007	50'36.01	4' 28	SX263808	96.	485	29.7	56.7	17	2.05	.388
LRF3A008	50' 35.7	4'27.99	SX263802	108	549	33.7	36.5	14.3	2.15	.360
LRF3A008	50'35.35	4'28.03	SX261796	94.	741	27.5	61.2	17.2	2.76	.460
LRF3A009	50'35.03	4'28.07	SX261790	88.	369	18.2	28.2	9.27	1.40	.259
LRF3A009	50'34.76	4' 28.1	SX260785	102	407	37.4	44	16.5	1.86	.330
LRF3A010	50'34.47	4'28.14	SX260780	95.	965	71	90	32.5	4.11	.740
LRF3A010	50'34.17	4'28.18	SX259774	95	864	79.3	95.9	35.4	3.97	.75
LRF3A011	50'33.88	4'28.21	SX259769	92.	998	69.5	103	34.5	4.26	.768
LRF3A011	50' 33.6	4'28.23	SX258764	70	1048	105	113	44.2	4.88	.870
LRF3A012	50'33.31	4'28.21	SX258758	102	897	59.5	78.5	27.7	3.70	.670
LRF3A012	50'33.01	4'28.14	SX259753	93.	761	48.4	50.5	20.1	3	.528
LRF3A013	50'32.75	4'28.05	SX260748	76.	1188	98.5	83	37.4	4.98	.850
LRF3A013	50'32.52	4'27.94	SX261744	83.	916	47.5	52.7	20.2	3.43	.569
LRF3A014	50'32.22	4'27.85	SX261738	77	682	47	37.4	17.2	2.68	.460
LRF3A014	50'31.87	4'27.76	SX262732	97.	981	59.5	55.2	23.5	3.75	.629
LRF3A015	50'31.57	4' 27.7	SX263726	79.	823	51.9	52.9	21.2	3.23	.528

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3A015	50'31.32	4'27.69	SX263721	87.	1004	74.3	58.5	27.2	4.03	.689
LRF3A016	50'31.06	4'27.68	SX263717	92.	864	55	57.2	22.7	3.41	.578
LRF3A016	50'30.79	4'27.69	SX263712	101	747	65.4	53.9	24.6	3.19	.578
LRF3A017	50'30.51	4' 27.7	SX262706	95.	828	58	52.7	22.7	3.30	.569
LRF3A017	50'30.22	4'27.72	SX262701	100	786	37.2	45.2	16.6	2.90	.490
LRF3A018	50'29.94	4'27.73	SX262696	101	902	70.0	59.9	26.7	3.71	.629
LRF3A018	50'29.67	4'27.74	SX262691	97.	889	67.5	64	26.7	3.67	.629
LRF3A019	50'29.42	4'27.75	SX261686	103	848	58.9	63.2	24.7	3.45	.600
LRF3A019	50'29.17	4'27.77	SX260682	92.	743	32.7	58.5	18	2.80	.469
LRF3A020	50' 28.9	4'27.79	SX260677	84.	547	24.5	38	12.5	2.03	.349
LRF3A020	50'28.61	4'27.82	SX260671	101	584	30.5	45.4	15.1	2.25	.388
LRF3A021	50'28.28	4'27.71	SX261665	122	640	24.7	49.5	14.6	2.39	.418
LRF3A021	50'27.91	4'27.47	SX264658	97.	742	27.7	54.5	16.2	2.73	.469
LRF3A022	50'27.57	4'27.29	SX265652	94.	728	42.2	57.2	19.7	2.89	.490
LRF3A022	50'27.26	4'27.16	SX266646	104	730	54.9	58.5	23.1	3.03	.540
LRF3A023	50'26.91	4'27.15	SX267640	104	829	41	70.8	22.2	3.25	.550
LRF3A023	50' 26.5	4'27.24	SX266632	119	980	37.2	77.5	22.6	3.66	.610
LRF3A024	50'26.17	4'27.29	SX265626	95	939	47.2	73	24	3.64	.588
LRF3A024	50'25.91	4'27.31	SX264621	94.	806	28.7	61.2	17.6	2.97	.490
LRF3A025	50'25.67	4'27.33	SX263617	77.	1007	37.7	77.3	22.6	3.74	.610
LRF3A025	50'25.44	4'27.35	SX263613	67.	1017	44.9	82.9	25.2	3.89	.610
LRF3A026	50' 25.2	4'27.37	SX263608	91.	978	38.7	66.5	20.7	3.58	.578
LRF3A026	50'24.93	4' 27.4	SX263603	82.	723	34.2	64	19.2	2.81	.460
LRF3A027	50'24.69	4'27.42	SX262599	90.	729	37	60	19.2	2.83	.479
LRF3A027	50'24.46	4'27.43	SX261594	81.	538	42.2	57	19.7	2.35	.418
LRF3A028	50'24.25	4'27.41	SX262591	94.	737	32	61	18.2	2.80	.5
LRF3A028	50'24.07	4'27.37	SX262587	77.	700	30.5	50.9	16.2	2.63	.439
LRF3A029	50'23.85	4'27.36	SX262583	82.	688	29.5	60.5	17.7	2.65	.449
LRF3A029	50'23.58	4'27.39	SX262578	79.	601	32.7	55.5	17.5	2.42	.409
LRF3A030	50'23.32	4'27.41	SX262573	78	827	38.2	54	18.5	3.07	.490
LRF3A030	50'23.09	4'27.42	SX261569	105	597	30.2	53.2	16.5	2.34	.400
LRF3A031	50'22.83	4'27.46	SX260564	87	684	42.5	59.5	20.5	2.77	.449
LRF3A031	50'22.54	4'27.52	SX259559	84.	616	30.2	54.9	16.7	2.43	.400
LRF3A032	50'22.27	4'27.51	SX259554	96.	514	29.2	47.4	15.3	2.06	.388
LRF3A032	50' 22	4'27.44	SX260549	86.	521	35.5	42.9	15.8	2.14	.379
LRF3A033	50'21.76	4'27.38	SX261545	85.	588	33.5	47.2	16.2	2.31	.370
LRF3A033	50'21.54	4'27.34	SX261540	70.	525	32.7	45.5	15.6	2.14	.349
LRF3A034	50'21.31	4'27.24	SX262536	120	589	33.7	42.7	15.3	2.29	.379
LRF3A034	50'21.08	4'27.09	SX263532	145	496	34.9	37	14.6	2.00	.360
LRF3A035	50'20.83	4'27.01	SX264527	103	417	19.1	37.2	11.1	1.62	.280
LRF3A035	50'20.56	4'27.01	SX264522	84.	339	18.2	28	9.22	1.34	.218
LRF3B001	50'38.68	4'27.06	SX276857	67.	282	31.7	28.6	12.3	1.35	.25
LRF3B001	50'39.04	4'26.99	SX276863	111	384	27.6	29.2	11.6	1.58	.310
LRF3B002	50'38.09	4'27.16	SX273846	86.	686	51.7	63	23.2	2.93	.509
LRF3B002	50'38.37	4'27.11	SX274851	92.	591	41.5	57.5	19.7	2.5	.460
LRF3B003	50'37.58	4'27.29	SX272837	80.	809	38.9	62.2	20.1	3.09	.509
LRF3B003	50'37.83	4'27.22	SX273841	93	891	42	64	21.1	3.38	.550
LRF3B004	50'37.04	4'27.58	SX269827	86.	245	14.1	27	8.10	1.01	.209
LRF3B004	50'37.32	4'27.41	SX271832	92.	955	36	72.5	21.2	3.52	.600
LRF3B005	50'36.59	4' 27.9	SX264819	95.	589	29.2	47.4	15.3	2.27	.400
LRF3B005	50' 36.8	4'27.74	SX266823	72.	474	14.5	34.9	9.64	1.71	.280
LRF3B006	50'36.15	4'28.03	SX262811	77	560	36.9	51.7	17.7	2.31	.400
LRF3B006	50'36.38	4' 28	SX263815	74.	793	30.7	57	17.2	2.93	.460
LRF3B007	50'35.63	4'27.94	SX263801	84.	491	38.7	44.5	16.7	2.09	.360
LRF3B007	50' 35.9	4'28.01	SX262806	81.	466	29.2	35.2	13.1	1.87	.340
LRF3B008	50'35.12	4'27.84	SX263792	89.	367	27.2	30.7	11.6	1.52	.270
LRF3B008	50'35.37	4'27.88	SX263796	93.	718	37.5	56.2	18.7	2.78	.460
LRF3B009	50'34.47	4'27.78	SX264780	90.	883	68	91.9	32	3.84	.699
LRF3B009	50'34.82	4'27.81	SX264786	91.	448	37.4	52	17.7	2.01	.360
LRF3B010	50'33.89	4'27.69	SX265769	103	1047	95.5	97.0	39.2	4.67	.850
LRF3B010	50'34.16	4'27.74	SX265774	77.	770	84.5	69.8	31.7	3.57	.638
LRF3B011	50'33.38	4'27.47	SX267759	92	784	46.5	86.8	26.2	3.28	.610

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3B011	50'33.63	4' 27.6	SX265764	84.	1072	96	104	40.5	4.78	.828
LRF3B012	50'32.86	4'27.27	SX269750	80.	849	59.7	81.5	28.2	3.58	.638
LRF3B012	50'33.13	4'27.36	SX268755	81.	964	87.0	82.9	34.7	4.23	.720
LRF3B013	50'32.38	4'27.09	SX271740	86.	1056	59	64	25	4.03	.699
LRF3B013	50'32.61	4'27.18	SX270745	64.	1239	77.5	64.5	29.2	4.75	.800
LRF3B014	50' 31.9	4'26.94	SX272731	93.	959	66.9	54	24.7	3.77	.670
LRF3B014	50'32.14	4'27.01	SX271736	86.	1081	74	52.9	26.2	4.19	.708
LRF3B015	50'31.38	4'26.77	SX274721	90.	1046	89.0	55.9	30.2	4.30	.730
LRF3B015	50'31.65	4'26.86	SX273726	78.	1121	78.0	66.5	29.7	4.44	.75
LRF3B016	50'30.79	4'26.63	SX276711	90.	1329	86	74	32.9	5.17	.860
LRF3B016	50' 31.1	4' 26.7	SX275716	83.	842	48.2	65.0	22.7	3.31	.578
LRF3B017	50' 30	4'26.52	SX276696	84.	911	76.4	61.5	28.5	3.80	.660
LRF3B017	50'30.43	4'26.57	SX275704	66.	1473	76.0	69	29.7	5.40	.860
LRF3B018	50'29.43	4'26.51	SX276685	82.	922	40.7	66.9	21.2	3.47	.560
LRF3B018	50'29.66	4' 26.5	SX276690	91.	878	56	60.2	23.6	3.48	.569
LRF3B019	50' 29	4' 26.5	SX275677	90.	749	37.9	58.2	19.2	2.90	.490
LRF3B019	50'29.21	4'26.51	SX275681	95	726	31	56.5	17.2	2.74	.490
LRF3B020	50'28.44	4'26.52	SX275667	92.	913	50.7	64.3	23.2	3.52	.588
LRF3B020	50'28.75	4'26.51	SX275673	80.	759	48.5	61.4	22.2	3.06	.5
LRF3B021	50'27.73	4'26.56	SX275654	97.	778	37.5	57.9	19	2.97	.490
LRF3B021	50' 28.1	4'26.53	SX275661	93.	875	34.9	62.2	19.2	3.24	.550
LRF3B022	50'27.03	4'26.58	SX273641	97	757	42.4	58.7	20.2	2.98	.509
LRF3B022	50'27.38	4'26.57	SX273647	86.	761	32.9	60	18.2	2.89	.479
LRF3B023	50'26.39	4' 26.6	SX273629	96.	839	35.5	62.7	19.5	3.15	.540
LRF3B023	50' 26.7	4'26.59	SX273635	94	815	33.5	67.5	19.7	3.08	.518
LRF3B024	50'25.84	4' 26.6	SX272619	91.	951	34.7	64.0	19.5	3.46	.560
LRF3B024	50'26.11	4' 26.6	SX272624	89.	920	34.5	56.5	18.1	3.30	.540
LRF3B025	50'25.29	4'26.59	SX272609	79.	1051	42	74.5	23.1	3.89	.588
LRF3B025	50'25.56	4' 26.6	SX272614	92	564	22.6	43.4	13	2.09	.370
LRF3B026	50'24.78	4'26.57	SX272599	95.	670	33.7	65.5	19.6	2.69	.469
LRF3B026	50'25.03	4'26.58	SX272604	86	908	33.5	72	20.7	3.38	.560
LRF3B027	50'24.29	4'26.54	SX272590	95.	668	31	57.7	17.5	2.57	.449
LRF3B027	50'24.53	4'26.55	SX272595	82.	484	39.9	53.2	18.7	2.17	.400
LRF3B028	50'23.82	4'26.52	SX272582	96.	687	32.9	52	16.7	2.63	.460
LRF3B028	50'24.05	4'26.53	SX272586	78.	714	34.5	55	17.7	2.74	.439
LRF3B029	50'23.38	4' 26.5	SX272573	81.	749	38	66.9	20.7	2.96	.490
LRF3B029	50'23.59	4'26.51	SX272577	73.	697	30.2	60	17.7	2.68	.430
LRF3B030	50' 22.9	4'26.45	SX272565	79.	413	36.5	41.9	15.8	1.85	.349
LRF3B030	50'23.15	4'26.48	SX273569	87.	561	36.9	55.2	18.2	2.34	.409
LRF3B031	50'22.47	4'26.46	SX272557	80.	525	32	47.9	15.8	2.15	.388
LRF3B031	50'22.68	4'26.45	SX272561	109	439	33.2	41.7	15.1	1.87	.370
LRF3B032	50'22.04	4'26.49	SX271549	92.	559	26.5	45.7	14.3	2.16	.388
LRF3B032	50'22.26	4'26.47	SX272553	83.	578	38.7	55.9	18.7	2.43	.418
LRF3B033	50'21.62	4'26.45	SX272541	75.	570	36.7	50.4	17.5	2.32	.379
LRF3B033	50'21.83	4'26.48	SX272545	119	515	32.5	46.5	15.8	2.10	.400
LRF3B034	50'21.41	4'26.34	SX272537	113	380	20.1	29.7	9.93	1.48	.270
LRF3C001	50'39.52	4'26.27	SX285872	92.	525	31.2	57.4	17.5	2.21	.388
LRF3C001	50'39.16	4'26.37	SX284865	91.	546	37.4	50	17.6	2.26	.400
LRF3C002	50'38.83	4'26.41	SX283859	82.	400	19.5	27.2	9.35	1.5	.280
LRF3C002	50'38.52	4'26.39	SX283854	93.	570	40.2	44.7	17.2	2.32	.409
LRF3C003	50'38.23	4'26.38	SX283848	84.	670	43.7	57.5	20.2	2.75	.479
LRF3C003	50'37.97	4'26.39	SX283843	86.	492	39.4	57.5	19.2	2.21	.418
LRF3C004	50' 37.7	4'26.39	SX283838	82	647	54.7	52.2	21.7	2.76	.490
LRF3C004	50'37.41	4'26.38	SX283833	88.	752	35.9	55.7	18.2	2.85	.479
LRF3C005	50'37.13	4'26.36	SX283828	95.	1007	37.7	55.2	18.6	3.56	.578
LRF3C005	50'36.85	4'26.35	SX282823	93.	892	38	60.7	19.7	3.29	.518
LRF3C006	50'36.59	4'26.35	SX282818	103	827	43.4	66	21.7	3.23	.540
LRF3C006	50'36.34	4'26.38	SX282813	72.	529	23.2	30.6	10.8	1.91	.319
LRF3C007	50'36.07	4'26.38	SX282808	97.	521	20.7	31.7	10.5	1.87	.319
LRF3C007	50'35.78	4'26.36	SX282803	87	626	32.9	45.2	15.6	2.41	.409
LRF3C008	50' 35.5	4'26.35	SX282798	91.	401	33.9	47.9	16.2	1.83	.349
LRF3C008	50'35.21	4'26.34	SX281792	88	551	47.4	51.9	20.2	2.43	.430

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3C009	50' 34.9	4'26.32	SX281787	93.	549	41.5	51.7	18.7	2.33	.400
LRF3C009	50'34.57	4'26.29	SX282781	85.	513	36.2	47	16.7	2.16	.379
LRF3C010	50'34.28	4'26.27	SX282775	85	727	30.2	60.9	18	2.75	.490
LRF3C010	50'34.04	4'26.27	SX282771	94.	385	21.1	33.4	10.8	1.52	.270
LRF3C011	50'33.78	4'26.27	SX281766	114	661	38.2	51.5	18	2.60	.469
LRF3C011	50' 33.5	4'26.26	SX281761	103	820	42.2	63.2	21.1	3.18	.540
LRF3C012	50'33.23	4'26.24	SX281756	102	791	60	73	26.7	3.38	.638
LRF3C012	50'32.96	4'26.23	SX281751	84	925	67.0	87.4	31.1	3.93	.699
LRF3C013	50'32.63	4'26.21	SX282745	84.	1025	93	100	39.2	4.59	.810
LRF3C013	50'32.23	4' 26.2	SX281737	86.	1145	72.8	86.8	32.2	4.59	.75
LRF3C014	50'31.91	4'26.17	SX281731	92.	1164	69.5	69	28.2	4.48	.75
LRF3C014	50'31.66	4'26.14	SX282727	80.	638	38.4	48.9	17.6	2.52	.439
LRF3C015	50' 31.4	4' 26.1	SX282722	89.	869	54.4	68.4	24.7	3.5	.610
LRF3C015	50'31.15	4'26.06	SX282717	74.	979	51.5	64.4	23.2	3.73	.620
LRF3C016	50'30.92	4'26.01	SX283713	79.	1045	72.9	63.2	28	4.15	.699
LRF3C016	50'30.73	4'25.94	SX283709	77.	981	79.3	53	27.6	3.99	.670
LRF3C017	50'30.52	4'25.95	SX283706	71	1175	52.5	55.2	22	4.21	.680
LRF3C017	50'30.29	4'26.02	SX282701	73.	960	51.7	51	21	3.57	.588
LRF3C018	50'30.04	4'26.04	SX282697	88	972	77	56.2	27.6	3.96	.670
LRF3C018	50'29.79	4'26.01	SX282692	85.	850	55	71	25.2	3.47	.610
LRF3C019	50'29.56	4'25.99	SX282688	92.	996	43	77	23.7	3.75	.629
LRF3C019	50'29.35	4'25.97	SX283684	90.	906	45	66.3	22.2	3.47	.588
LRF3C020	50'29.12	4'25.97	SX282680	89.	678	26	59.2	16.7	2.56	.460
LRF3C020	50'28.88	4'25.96	SX282675	94.	708	36	48.4	16.7	2.70	.449
LRF3C021	50'28.63	4'25.95	SX282671	96.	682	27.1	61.5	17.2	2.59	.469
LRF3C021	50'28.36	4'25.96	SX282666	96	798	33.4	65	19.2	3.01	.509
LRF3C022	50'28.09	4'25.95	SX282661	96.	730	29.7	48.5	15.6	2.68	.439
LRF3C022	50'27.83	4'25.94	SX282656	96.	758	37.5	61.2	19.6	2.94	.5
LRF3C023	50'27.58	4'25.92	SX281651	93.	797	36	68	20.5	3.06	.490
LRF3C023	50'27.34	4'25.89	SX282647	83.	658	37.2	62.4	19.7	2.67	.479
LRF3C024	50'27.08	4'25.88	SX282642	89.	754	44	57	20.2	2.98	.479
LRF3C024	50'26.79	4'25.91	SX281637	93.	741	30.1	76.0	20.7	2.92	.518
LRF3C025	50'26.52	4'25.92	SX281632	72.	802	37.4	52.4	18	3	.509
LRF3C025	50'26.29	4'25.92	SX281627	87.	970	37.5	69.3	21.1	3.56	.588
LRF3C026	50'26.04	4'25.91	SX280623	87.	1043	27.6	79.5	20.7	3.73	.620
LRF3C026	50'25.79	4'25.88	SX281618	78.	876	39.5	52.7	18.6	3.23	.518
LRF3C027	50'25.53	4'25.85	SX281613	95.	735	35.5	59	18.7	2.82	.469
LRF3C027	50'25.27	4' 25.8	SX282608	81	804	42	59.9	20.2	3.09	.509
LRF3C028	50'24.96	4'25.75	SX282603	100	618	39	61.7	20.1	2.56	.469
LRF3C028	50'24.59	4' 25.7	SX282596	97.	630	39.7	52.9	18.6	2.54	.449
LRF3C029	50'24.28	4'25.65	SX282590	100	691	38	57.2	19	2.74	.469
LRF3C029	50'24.03	4'25.61	SX283586	95.	627	30.2	61.4	18	2.5	.439
LRF3C030	50'23.78	4'25.56	SX283581	84.	702	28.2	49.5	15.3	2.58	.430
LRF3C030	50'23.53	4'25.51	SX284576	79	604	19.6	29.7	9.85	2.07	.340
LRF3C031	50'23.18	4'25.44	SX285570	91.	580	24.6	51.5	14.8	2.23	.409
LRF3C031	50'22.71	4'25.35	SX285561	107	528	40.5	53.2	18.7	2.27	.439
LRF3C032	50'22.35	4' 25.3	SX285554	96.	666	29.5	63.7	18.2	2.59	.439
LRF3C032	50'22.08	4'25.27	SX286549	120	573	31.1	55.4	17.1	2.30	.418
LRF3C033	50' 21.8	4'25.26	SX286544	96.	625	33.5	50.5	16.7	2.46	.439
LRF3C033	50'21.51	4'25.27	SX285539	153	650	34.9	56.7	18.2	2.57	.509
LRF3D001	50'38.45	4'25.74	SX290852	97.	737	48.9	58.2	21.6	3	.5
LRF3D001	50'38.72	4'25.78	SX291857	112	516	34.7	40.5	15.1	2.08	.388
LRF3D002	50'37.86	4'25.56	SX292841	97.	542	28.2	53.4	16.1	2.19	.400
LRF3D002	50'38.16	4'25.67	SX291847	77	894	37.7	49.4	17.5	3.23	.5
LRF3D003	50'37.24	4' 25.4	SX294830	99.	635	31	56	17.2	2.49	.430
LRF3D003	50'37.55	4'25.47	SX293836	96.	632	34.2	56.2	18	2.50	.449
LRF3D004	50'36.65	4'25.26	SX295819	94.	826	21.7	65.5	16.7	2.98	.479
LRF3D004	50'36.94	4'25.33	SX294824	87	609	47.2	49.7	19.7	2.55	.449
LRF3D005	50'36.05	4'25.22	SX295808	93.	599	22.7	42.4	12.8	2.20	.370
LRF3D005	50'36.36	4'25.23	SX295814	94.	557	42.2	57.7	20	2.42	.449
LRF3D006	50'35.52	4'25.17	SX296798	87.	452	33.2	38	14.3	1.87	.349
LRF3D006	50'35.77	4' 25.2	SX296803	89.	351	21.2	33	10.8	1.44	.270

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3D007	50'35.02	4'25.12	SX296789	79.	477	25	55	15.6	1.98	.360
LRF3D007	50'35.27	4'25.14	SX295793	108	551	24	56	15.6	2.18	.400
LRF3D008	50'34.51	4'25.13	SX295779	86	566	37.5	47	17.1	2.30	.400
LRF3D008	50'34.77	4'25.12	SX296784	92.	573	34.5	51.5	17.2	2.31	.409
LRF3D009	50'34.04	4'25.18	SX295771	90.	491	33.2	47.7	16.2	2.05	.370
LRF3D009	50'34.27	4'25.15	SX295775	82.	616	46.2	50.2	19.6	2.56	.460
LRF3D010	50'33.55	4'25.27	SX293762	95.	480	36.2	47.2	16.7	2.05	.388
LRF3D010	50' 33.8	4'25.22	SX293766	88.	271	23.7	31.7	11.1	1.24	.238
LRF3D011	50'33.01	4' 25.3	SX292752	85.	875	59.2	64	25.1	3.52	.600
LRF3D011	50'33.29	4'25.29	SX293757	88.	709	49.4	51	20.5	2.88	.509
LRF3D012	50'32.48	4'25.27	SX293742	88.	983	45.4	60.2	21.2	3.64	.600
LRF3D012	50'32.74	4'25.29	SX293747	97.	822	58	69.5	25.7	3.42	.620
LRF3D013	50'31.95	4' 25.2	SX293732	110	886	35.2	71.5	21	3.32	.569
LRF3D013	50'32.22	4'25.24	SX292737	82.	787	39.9	69	21.6	3.08	.550
LRF3D014	50'31.43	4'25.22	SX292722	90.	866	42.5	67	21.7	3.32	.569
LRF3D014	50'31.68	4'25.19	SX293727	78.	773	44.5	64.5	21.7	3.07	.518
LRF3D015	50' 30.9	4'25.14	SX293713	91.	778	52.2	58	22.2	3.15	.560
LRF3D015	50'31.17	4' 25.2	SX293718	110	961	43.4	75.9	23.6	3.67	.629
LRF3D016	50'30.37	4'25.13	SX292703	95.	1094	46	73	23.7	4.03	.638
LRF3D016	50'30.64	4'25.12	SX293708	101	867	73.5	55.7	26.7	3.63	.648
LRF3D017	50'29.89	4'25.14	SX292694	94.	971	48.5	67	23.2	3.69	.629
LRF3D017	50'30.12	4'25.13	SX292698	65.	1107	52.2	67.5	24.1	4.11	.629
LRF3D018	50'29.36	4'25.14	SX292684	87.	912	31.7	69	19.7	3.33	.560
LRF3D018	50'29.63	4'25.14	SX292689	90.	881	45.5	62.7	21.7	3.38	.560
LRF3D019	50'28.85	4'25.11	SX292675	90.	850	40.5	65.0	21	3.25	.528
LRF3D019	50' 29.1	4'25.13	SX291679	79	861	42	61.7	20.7	3.26	.528
LRF3D020	50'28.29	4'25.13	SX291664	96	909	33.7	66	19.7	3.33	.550
LRF3D020	50'28.58	4'25.11	SX292670	79.	871	24.7	68	18	3.15	.518
LRF3D021	50'27.68	4'25.08	SX291653	79.	684	41.7	59.5	20.2	2.76	.469
LRF3D021	50'27.99	4'25.12	SX292659	104	843	32	67.5	19.5	3.15	.528
LRF3D022	50'27.06	4'25.02	SX292642	88.	836	34.2	63.2	19.2	3.13	.509
LRF3D022	50'27.37	4'25.05	SX291647	80.	523	42	51.2	18.7	2.26	.388
LRF3D023	50'26.44	4'24.94	SX293630	92.	857	32.7	73.5	20.7	3.24	.560
LRF3D023	50'26.75	4'24.98	SX292636	81.	728	32.7	52.4	17	2.74	.460
LRF3D024	50'25.89	4' 24.9	SX292620	97.	777	43.2	61.2	20.7	3.04	.550
LRF3D024	50'26.16	4'24.91	SX292625	100	898	39.4	64.0	20.6	3.35	.550
LRF3D025	50'25.36	4'24.88	SX292610	102	767	34	56.4	18	2.89	.479
LRF3D025	50'25.63	4'24.89	SX292615	102	405	28.2	33.2	12.5	1.66	.319
LRF3D026	50'24.86	4'24.86	SX293601	84	642	36.5	70.8	21.2	2.68	.469
LRF3D026	50'25.11	4'24.87	SX293605	84.	544	43.5	63	21.2	2.44	.449
LRF3D027	50'24.76	4'24.84	SX293599	110	668	37.4	54.9	18.5	2.65	.460
LRF3D027	50'24.74	4'24.85	SX293599	97.	665	41.9	71	22.2	2.79	.479
LRF3D028	50'24.91	4'23.98	SX303601	95.	612	36.2	55	18.2	2.49	.430
LRF3D028	50'24.82	4'24.55	SX296600	83.	638	34.2	57	18.1	2.53	.439
LRF3D029	50'23.43	4' 24.4	SX297573	96.	577	38.2	44.9	16.7	2.32	.388
LRF3D029	50'23.88	4'23.93	SX303582	98.	574	42.5	46	18	2.39	.400
LRF3D030	50'22.85	4'24.74	SX292564	103	636	43.4	61.4	21	2.68	.479
LRF3D030	50'23.08	4'24.73	SX293568	88.	547	34.2	55.5	17.7	2.27	.388
LRF3D031	50' 22.4	4'24.75	SX292555	96.	523	26.2	55.2	16	2.13	.400
LRF3D031	50'22.62	4'24.74	SX292559	102	603	31.2	61.2	18.2	2.45	.430
LRF3D032	50'21.92	4'24.74	SX292546	80.	648	47	60.2	21.6	2.75	.479
LRF3D032	50'22.17	4'24.75	SX292551	92	633	44.2	64.3	21.7	2.70	.490
LRF3D033	50'21.68	4'24.74	SX292542	92.	531	34.5	48	16.6	2.20	.388
LRF3E001	50'39.38	4'24.99	SX300869	103	543	29.2	55.4	16.7	2.22	.409
LRF3E001	50'39.04	4'24.84	SX302862	85.	340	29.1	32.5	12.5	1.5	.289
LRF3E002	50'38.73	4'24.74	SX303856	103	511	27	37.7	13	1.98	.349
LRF3E002	50'38.45	4'24.71	SX302851	97.	580	58.2	42.9	21	2.55	.460
LRF3E003	50'38.18	4'24.72	SX302846	77.	646	31.7	56.4	17.2	2.52	.449
LRF3E003	50'37.91	4'24.77	SX302841	95.	740	48.7	59	21.7	3	.5
LRF3E004	50'37.64	4'24.75	SX302836	97.	673	30.7	59.2	17.7	2.60	.469
LRF3E004	50'37.37	4'24.65	SX303831	90.	561	41.9	57.9	20	2.43	.430
LRF3E005	50'37.11	4'24.61	SX304826	92.	552	38.5	52.5	18.2	2.31	.430

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3E005	50'36.84	4'24.63	SX302822	92.	669	36.7	62.7	19.7	2.70	.469
LRF3E006	50'36.59	4'24.64	SX302817	94.	819	40	64.5	20.7	3.16	.518
LRF3E006	50'36.37	4'24.65	SX302813	89.	894	32.5	61.5	18.5	3.25	.550
LRF3E007	50'36.15	4'24.63	SX302809	99.	567	19.7	40.4	11.8	2.04	.340
LRF3E007	50'35.92	4'24.59	SX303804	88.	806	42.5	58	20.2	3.09	.540
LRF3E008	50' 35.7	4'24.55	SX303800	104	869	42	59	20.2	3.26	.560
LRF3E008	50'35.47	4' 24.5	SX303796	83.	591	27.5	45.9	14.6	2.25	.379
LRF3E009	50'35.25	4'24.47	SX303792	80.	906	41.5	77.0	23.2	3.5	.588
LRF3E009	50'35.04	4'24.48	SX303788	84.	676	39.5	62.5	20.2	2.75	.460
LRF3E010	50'34.79	4' 24.5	SX303784	91.	537	27.2	58.4	16.7	2.20	.409
LRF3E010	50'34.51	4'24.53	SX303778	87.	566	40.7	49.2	18.2	2.35	.418
LRF3E011	50'34.26	4'24.59	SX302774	78.	655	32.4	47.5	16	2.5	.409
LRF3E011	50'34.03	4'24.67	SX301770	99.	516	47.7	46.5	19.2	2.28	.418
LRF3E012	50'33.79	4'24.71	SX299765	88.	723	31.6	56.7	17.5	2.75	.439
LRF3E012	50'33.52	4'24.72	SX299761	92.	290	19.7	30.2	10	1.24	.218
LRF3E013	50'33.26	4'24.69	SX300755	97.	445	26.2	31.2	11.6	1.75	.319
LRF3E013	50'33.02	4'24.64	SX300751	80.	704	52.5	58	22.2	2.95	.490
LRF3E014	50'32.77	4'24.59	SX301746	103	779	50.7	63.7	23.1	3.17	.540
LRF3E014	50'32.51	4'24.54	SX301741	92.	864	38.7	71	21.7	3.30	.540
LRF3E015	50'32.23	4'24.48	SX301736	105	801	49.5	59.2	22	3.19	.540
LRF3E015	50'31.92	4'24.43	SX302730	95.	784	49.4	61.2	22.2	3.15	.528
LRF3E016	50'31.64	4' 24.4	SX302725	89.	953	40.4	71.5	22.2	3.56	.600
LRF3E016	50'31.37	4'24.38	SX302720	114	837	47.4	68	23.1	3.30	.600
LRF3E017	50'31.11	4'24.37	SX302715	77.	1038	43.2	75.9	23.6	3.88	.610
LRF3E017	50'30.87	4'24.34	SX303711	79.	902	43.2	64.5	21.5	3.43	.569
LRF3E018	50'30.61	4'24.31	SX302706	91	1000	44.2	64	21.7	3.70	.588
LRF3E018	50'30.33	4'24.26	SX303701	74.	948	49.2	71.5	24.2	3.67	.600
LRF3E019	50'30.04	4'24.22	SX303696	87.	855	42	73.9	23	3.33	.578
LRF3E019	50'29.75	4'24.21	SX303690	85.	764	38.7	65	20.6	3	.5
LRF3E020	50'29.47	4' 24.2	SX304685	90.	989	29.7	74	20.2	3.55	.578
LRF3E020	50' 29.2	4'24.19	SX303680	102	879	27.2	58.7	16.7	3.14	.540
LRF3E021	50'28.92	4' 24.2	SX303675	89.	1045	31.7	61.7	18.2	3.66	.569
LRF3E021	50'28.65	4'24.24	SX302670	83.	866	26.7	56	16.2	3.06	.5
LRF3E022	50'28.39	4'24.28	SX302665	79.	855	30.6	57.7	17.2	3.08	.490
LRF3E022	50'28.14	4'24.31	SX301661	101	837	37.7	60.7	19.6	3.16	.528
LRF3E023	50'27.88	4'24.34	SX301656	84.	757	42	50	18.6	2.92	.5
LRF3E023	50'27.62	4'24.37	SX299651	77.	832	47	57.2	21	3.23	.518
LRF3E024	50'27.36	4'24.41	SX299646	83.	701	39.5	53.4	18.6	2.75	.460
LRF3E024	50'27.09	4'24.44	SX299641	93.	866	32.2	67.5	19.6	3.22	.540
LRF3E025	50'26.81	4'24.44	SX299636	89.	855	33.2	51.2	16.7	3.07	.509
LRF3E025	50'26.54	4'24.41	SX299631	67.	767	36.2	57	18.6	2.92	.469
LRF3E026	50'26.26	4'24.39	SX299626	95	826	36.9	65.5	20.2	3.15	.528
LRF3E026	50'25.97	4'24.36	SX299620	94.	888	35.5	64.5	19.7	3.28	.528
LRF3E027	50' 25.7	4'24.32	SX299615	82	823	41.7	57.7	19.7	3.14	.509
LRF3E027	50'25.44	4'24.27	SX300611	70.	437	30.6	37.9	13.8	1.82	.319
LRF3E028	50'25.21	4'24.22	SX300606	81.	813	48.2	53.4	20.6	3.16	.509
LRF3E028	50' 25	4'24.18	SX301602	60.	748	41.7	72	22.6	3.02	.518
LRF3E029	50'24.77	4'24.13	SX301598	89.	787	36.4	73.5	21.7	3.08	.509
LRF3E029	50'24.54	4'24.06	SX301594	99.	616	17.5	51.2	13.3	2.25	.388
LRF3E030	50'24.26	4'23.98	SX302589	82.	673	37.7	66	20.6	2.75	.460
LRF3E030	50'23.95	4'23.91	SX303583	79.	557	35.2	62	19.2	2.35	.418
LRF3E031	50' 23.6	4'23.84	SX304577	105	775	32	54.5	17.2	2.88	.479
LRF3E031	50'23.22	4'23.77	SX305570	91	525	40.5	53.7	18.7	2.27	.418
LRF3E032	50'22.81	4'23.74	SX304562	99.	626	36.5	51	17.6	2.5	.430
LRF3E032	50'22.36	4'23.73	SX304554	93.	523	33.5	58.7	18.2	2.24	.400
LRF3E033	50'21.96	4'23.76	SX304546	114	625	37.7	62.7	19.7	2.57	.479
LRF3E033	50'21.59	4'23.83	SX303539	166	343	12.5	22.2	6.90	1.24	.238
LRF3F001	50'24.59	3'39.75	SX825577	105	580	56.4	45.7	21.1	2.55	.439
LRF3F001	50'24.16	3'39.25	SX831569	83.	501	34.2	47	16.2	2.08	.360
LRF3F002	50'38.14	4'23.93	SX312846	131	919	41	63	20.7	3.44	.578
LRF3F002	50'38.42	4'23.86	SX313851	94.	627	36.2	55.4	18.2	2.51	.460
LRF3F003	50'37.58	4'23.92	SX312835	93.	615	40.7	51.7	18.6	2.50	.439

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3F003	50'37.86	4'23.95	SX311840	97.	546	49.9	55.5	21.2	2.47	.430
LRF3F004	50'37.07	4'23.81	SX313826	86.	645	58	55.4	23.2	2.82	.490
LRF3F004	50'37.32	4'23.87	SX312830	89.	611	48	51.2	20.2	2.58	.460
LRF3F005	50'36.54	4'23.71	SX313816	82.	889	55.2	62.5	23.7	3.50	.550
LRF3F005	50'36.81	4'23.76	SX313821	91.	935	40	73.5	22.2	3.52	.560
LRF3F006	50' 36	4'23.55	SX315806	97.	1034	37	62.4	19.7	3.70	.600
LRF3F006	50'36.27	4'23.64	SX314811	117	887	39	63.4	20.2	3.31	.578
LRF3F007	50'35.44	4'23.55	SX314796	86.	968	33.7	69	20.2	3.50	.560
LRF3F007	50'35.72	4'23.52	SX316801	129	902	32.2	68	19.7	3.30	.578
LRF3F008	50'34.88	4'23.55	SX314785	98.	374	20	28.5	9.72	1.46	.259
LRF3F008	50'35.16	4'23.56	SX314790	98.	505	23.2	40	12.6	1.94	.340
LRF3F009	50'34.26	4'23.59	SX314774	98.	439	48.4	55.5	21.1	2.16	.430
LRF3F009	50'34.58	4'23.56	SX314780	95.	657	48.4	40.2	18.2	2.65	.479
LRF3F010	50'33.65	4'23.65	SX312762	97	592	28.1	47.5	15	2.26	.418
LRF3F010	50'33.95	4'23.62	SX313768	92.	550	38.7	56	18.7	2.33	.430
LRF3F011	50'33.05	4'23.58	SX313751	97.	464	32.5	35.5	13.8	1.88	.330
LRF3F011	50'33.35	4'23.63	SX312757	108	507	39.2	35	15.1	2.07	.349
LRF3F012	50'32.53	4'23.51	SX314742	88	727	44	62.5	21.2	2.94	.518
LRF3F012	50'32.78	4'23.54	SX313746	91.	632	49.5	59.5	22	2.73	.490
LRF3F013	50' 32	4'23.47	SX313732	93.	826	64.0	61	25.6	3.44	.578
LRF3F013	50'32.27	4'23.49	SX313737	100	851	57.2	82.9	28	3.56	.629
LRF3F014	50'31.37	4'23.57	SX312720	101	734	44.5	52.7	19.7	2.90	.5
LRF3F014	50' 31.7	4' 23.5	SX313726	87.	838	32.4	57.7	17.7	3.06	.509
LRF3F015	50'30.82	4' 23.6	SX311710	96.	1022	47.4	61.5	21.7	3.76	.600
LRF3F015	50'31.07	4' 23.6	SX312715	78.	955	41.4	58.4	20	3.5	.560
LRF3F016	50'30.25	4'23.68	SX310700	94.	928	45.9	78.5	24.7	3.63	.620
LRF3F016	50'30.54	4'23.63	SX310705	79.	965	30.6	54.4	16.7	3.38	.540
LRF3F017	50'29.73	4'23.77	SX309690	88.	909	42.7	79.4	24.1	3.52	.569
LRF3F017	50'29.98	4'23.73	SX309695	83.	908	52.5	59.5	22.7	3.50	.569
LRF3F018	50'29.28	4'23.75	SX309682	88.	860	44	52.2	19.5	3.23	.528
LRF3F018	50'29.49	4'23.78	SX308686	76.	830	40.2	71.5	22.1	3.24	.550
LRF3F019	50'28.74	4'23.72	SX308672	86.	1040	34.2	63.2	19.2	3.69	.569
LRF3F019	50'29.03	4'23.73	SX308677	82.	919	32.7	50.2	16.6	3.25	.5
LRF3F020	50'28.11	4'23.69	SX309660	84.	894	26.2	67.5	18.2	3.23	.540
LRF3F020	50'28.43	4' 23.7	SX308666	81.	1036	42.9	64.9	21.5	3.77	.600
LRF3F021	50'27.46	4'23.55	SX309648	92.	785	26.2	70.0	18.7	2.95	.5
LRF3F021	50'27.79	4'23.64	SX309654	85.	826	36.2	63.2	19.7	3.13	.509
LRF3F022	50'26.82	4'23.41	SX311636	97.	779	32.5	60.2	18.2	2.93	.460
LRF3F022	50'27.14	4'23.47	SX310642	103	817	46	53	20.1	3.15	.509
LRF3F023	50' 26.2	4'23.28	SX312625	97.	855	34.2	55.7	17.7	3.13	.518
LRF3F023	50'26.51	4'23.35	SX312630	82.	573	35.5	49.9	17.1	2.31	.388
LRF3F024	50'25.59	4'23.19	SX312613	87.	873	39.7	57.4	19.2	3.25	.550
LRF3F024	50'25.89	4'23.22	SX312619	88.	932	35.5	77.5	22.1	3.5	.569
LRF3F025	50'25.01	4'23.09	SX314603	93.	851	25.1	55.9	15.8	3	.479
LRF3F025	50' 25.3	4'23.14	SX313608	84.	774	30.2	58.5	17.5	2.88	.460
LRF3F026	50'24.44	4' 23	SX314592	99	655	32.5	52.5	16.7	2.52	.430
LRF3F026	50'24.73	4'23.04	SX314597	108	715	37.7	58.5	19.2	2.79	.490
LRF3F027	50'23.85	4'22.94	SX314581	79.	787	30.6	59	17.7	2.92	.490
LRF3F027	50'24.15	4'22.97	SX314587	99.	614	34.5	57.9	18.2	2.49	.439
LRF3F028	50'23.29	4'22.94	SX314571	89.	645	40.5	53	18.7	2.59	.439
LRF3F028	50'23.56	4'22.93	SX315576	94.	666	30.2	63.2	18.2	2.60	.469
LRF3F029	50'22.78	4'22.93	SX314561	99	550	31.7	59.5	18	2.27	.418
LRF3F029	50'23.03	4'22.94	SX313566	64.	514	29.7	53.5	16.5	2.13	.388
LRF3F030	50'22.31	4'22.91	SX314553	70.	734	37.2	77	22.2	2.99	.5
LRF3F030	50'22.54	4'22.92	SX314557	82	723	32.7	71.3	20.2	2.84	.490
LRF3F031	50'21.86	4' 22.9	SX314544	73.	693	39.7	71.4	22	2.84	.479
LRF3F031	50'22.08	4'22.91	SX314548	101	726	44.7	62.2	21.5	2.95	.490
LRF3F032	50'21.68	4'23.06	SX312541	82	323	19.7	31.7	10.3	1.34	.238
LRF3F034	50'21.53	4'24.72	SX291539	159	414	22.2	31	10.6	1.61	.300
LRF3G001	50'39.39	4'23.13	SX322869	103	467	31.5	44.5	15.1	1.96	.360
LRF3G001	50'39.06	4'23.06	SX323863	88.	346	33.2	39.5	14.6	1.62	.289
LRF3G002	50'38.78	4' 23	SX324857	77.	338	50.9	42.7	19.2	1.83	.370

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3G002	50'38.53	4'22.93	SX324853	106	578	64.5	57	25	2.74	.490
LRF3G003	50'38.28	4'22.88	SX324848	102	529	46.5	55.2	20.6	2.38	.449
LRF3G003	50'38.03	4'22.83	SX325844	106	688	40.4	49.5	18.1	2.70	.449
LRF3G004	50'37.78	4' 22.8	SX325839	112	678	26.6	47.7	14.6	2.5	.430
LRF3G004	50'37.53	4' 22.8	SX325834	100	803	47.5	64.4	22.5	3.21	.528
LRF3G005	50'37.25	4'22.81	SX325829	102	621	45.2	62.4	21.6	2.67	.479
LRF3G005	50'36.95	4'22.81	SX324824	71.	591	29.6	46.5	15.1	2.27	.379
LRF3G006	50'36.68	4'22.86	SX323819	96.	640	24.2	50.4	14.6	2.39	.388
LRF3G006	50'36.45	4'22.93	SX323814	104	904	45.4	66.3	22.2	3.47	.578
LRF3G007	50' 36.2	4'22.96	SX322810	86.	944	38.9	79.5	23.2	3.57	.588
LRF3G007	50'35.93	4'22.95	SX322805	84.	928	38.7	79	23.2	3.53	.600
LRF3G008	50'35.67	4'22.94	SX322800	88.	940	41.7	79.8	23.7	3.60	.600
LRF3G008	50'35.42	4'22.94	SX321795	78.	931	37.7	62	19.7	3.42	.528
LRF3G009	50'35.18	4'22.94	SX321791	82.	930	40.5	63.5	20.7	3.46	.528
LRF3G009	50'34.95	4'22.95	SX321787	92.	482	34	46.5	16.1	2.02	.360
LRF3G010	50'34.71	4'22.94	SX321782	100	636	26.5	47.4	14.6	2.38	.400
LRF3G010	50'34.43	4'22.91	SX322777	93.	543	26.6	42.4	13.6	2.07	.349
LRF3G011	50'34.18	4'22.88	SX322772	73.	725	26.2	46	14.3	2.59	.409
LRF3G011	50'33.93	4'22.84	SX323768	115	608	38.9	44.5	16.7	2.43	.418
LRF3G012	50'33.68	4'22.81	SX322763	89.	628	52	50	20.7	2.68	.469
LRF3G012	50'33.43	4'22.81	SX322758	92.	623	43.9	55	20	2.59	.449
LRF3G013	50'33.18	4'22.76	SX323754	93.	798	47	70.3	23.2	3.23	.528
LRF3G013	50'32.93	4'22.69	SX323749	94.	720	42.2	58.4	20.2	2.85	.490
LRF3G014	50'32.65	4'22.65	SX324744	99.	589	45	57.2	20.6	2.52	.439
LRF3G014	50'32.35	4'22.65	SX323738	101	659	36.7	63.4	19.7	2.68	.449
LRF3G015	50'32.03	4'22.66	SX323733	92.	384	34	38.9	14.8	1.72	.310
LRF3G015	50'31.68	4'22.69	SX322726	102	694	35.5	57.5	18.5	2.72	.460
LRF3G016	50'31.38	4'22.75	SX322720	103	558	33.4	50.5	16.7	2.25	.388
LRF3G016	50'31.13	4'22.85	SX320716	114	887	37.4	61.9	19.7	3.28	.550
LRF3G017	50'30.85	4'22.92	SX320711	108	821	40	65.5	21	3.17	.550
LRF3G017	50'30.55	4'22.95	SX318705	94	927	34	71.5	20.7	3.44	.550
LRF3G018	50'30.26	4'22.99	SX318700	99.	814	37.2	59.4	19.2	3.06	.518
LRF3G018	50'29.99	4'23.02	SX317695	79.	909	39	73.5	22.2	3.46	.588
LRF3G019	50'29.73	4'23.06	SX317690	85.	939	38.2	64.0	20.2	3.47	.560
LRF3G019	50'29.48	4' 23.1	SX317685	106	801	51.7	63	23.2	3.24	.560
LRF3G020	50'29.22	4'23.09	SX316681	89.	872	42.7	67	21.7	3.34	.550
LRF3G020	50'28.95	4'23.03	SX316676	97.	940	38.4	69.4	21.2	3.5	.569
LRF3G021	50'28.67	4'22.86	SX318670	96.	970	40.4	70.5	22	3.60	.588
LRF3G021	50'28.39	4'22.57	SX322665	76.	987	41.7	68	21.7	3.67	.600
LRF3G022	50'28.09	4'22.42	SX324660	84.	1015	36.9	82	23.2	3.76	.610
LRF3G022	50'27.76	4'22.41	SX324654	94.	970	33.5	87.3	23.5	3.66	.600
LRF3G023	50'27.48	4'22.39	SX323648	77.	880	43	73.9	23.2	3.43	.560
LRF3G023	50'27.23	4'22.36	SX323644	98.	860	38.5	66.4	20.7	3.25	.528
LRF3G024	50'26.95	4'22.33	SX324639	97.	770	31.6	48.7	16	2.80	.460
LRF3G024	50'26.65	4'22.31	SX324633	101	824	34.5	58.4	18.2	3.05	.528
LRF3G025	50'26.38	4' 22.3	SX324628	75.	635	33	52.7	17.1	2.49	.430
LRF3G025	50'26.13	4' 22.3	SX323623	81.	738	19	51.4	13.6	2.58	.430
LRF3G026	50'25.88	4' 22.3	SX323619	94.	919	30.7	74	20.5	3.39	.569
LRF3G026	50'25.63	4' 22.3	SX323614	99.	880	26.2	71.5	19	3.22	.540
LRF3G027	50'25.35	4'22.31	SX323609	87.	815	39	50.5	18	3.02	.490
LRF3G027	50'25.05	4'22.35	SX322603	117	820	29.6	52.5	16.2	2.96	.490
LRF3G028	50'24.78	4' 22.4	SX322598	98.	752	43.5	54.2	19.7	2.95	.469
LRF3G028	50'24.53	4'22.47	SX320594	94.	753	38.7	57.5	19.2	2.91	.490
LRF3G029	50'24.29	4'22.49	SX320589	88.	700	35.9	55.7	18.2	2.73	.449
LRF3G029	50'24.07	4'22.47	SX320585	91.	708	44.2	59.5	20.7	2.85	.469
LRF3G030	50'23.85	4'22.45	SX320581	94.	553	27.5	54.2	16.1	2.22	.400
LRF3G030	50'23.62	4'22.42	SX321577	90.	668	33	63	18.7	2.66	.439
LRF3G031	50'23.38	4'22.39	SX321572	81.	473	32	44.5	15.3	1.98	.360
LRF3G031	50'23.13	4'22.36	SX321568	110	592	30.5	62.5	18.2	2.42	.460
LRF3G032	50'22.88	4'22.34	SX321563	92.	651	36	65.5	20.1	2.66	.469
LRF3G032	50'22.65	4'22.31	SX321559	94.	791	39.5	64.5	20.7	3.06	.518
LRF3G033	50' 22.4	4'22.28	SX321554	97.	653	44.7	59.4	20.7	2.73	.469

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3G033	50'22.13	4'22.24	SX322549	85.	663	42.5	55.2	19.7	2.70	.460
LRF3G034	50'21.85	4'22.21	SX322544	100	641	37.2	61.5	19.6	2.60	.460
LRF3G034	50'21.55	4'22.18	SX322539	109	638	35	50	17	2.5	.449
LRF3H001	50'38.71	4'22.42	SX331855	96.	606	52.7	53	21.6	2.65	.460
LRF3H001	50'38.93	4'22.45	SX330859	83.	491	33.4	39.7	14.8	2	.360
LRF3H002	50'38.15	4'22.25	SX332845	88.	704	41	55.7	19.2	2.78	.469
LRF3H002	50'38.45	4'22.35	SX330850	81.	680	47.4	57.9	21.2	2.80	.469
LRF3H003	50'37.59	4' 22.2	SX332834	117	614	37	42	16	2.41	.430
LRF3H003	50'37.86	4' 22.2	SX332839	110	672	42.9	46.2	18.1	2.67	.460
LRF3H004	50'37.04	4'22.19	SX331824	88.	642	35.9	47.4	16.7	2.5	.439
LRF3H004	50'37.31	4' 22.2	SX332829	100	713	55.7	60.5	23.7	3.01	.518
LRF3H005	50'36.53	4'22.23	SX331815	80.	994	41	71	22.2	3.70	.588
LRF3H005	50'36.78	4' 22.2	SX331819	75.	875	27.7	74	19.7	3.24	.518
LRF3H006	50'35.88	4'22.23	SX331803	84.	1023	38.2	74.9	22.2	3.75	.610
LRF3H006	50'36.23	4'22.24	SX331809	85.	1028	33	70.8	20.2	3.69	.578
LRF3H007	50' 35.3	4'22.21	SX330792	83.	965	41.2	67.5	21.6	3.58	.578
LRF3H007	50'35.57	4'22.22	SX331797	91.	910	32	64.0	18.7	3.29	.540
LRF3H008	50'34.76	4'22.17	SX331782	82.	914	39.2	73	22.1	3.47	.560
LRF3H008	50'35.03	4'22.19	SX330787	122	740	32.7	60.7	18.2	2.81	.490
LRF3H009	50'34.21	4'22.12	SX331772	96.	624	36	47.4	16.7	2.46	.430
LRF3H009	50'34.48	4'22.15	SX331777	93.	859	37.2	68.5	20.7	3.25	.550
LRF3H010	50'33.62	4'22.08	SX331761	92.	657	37.5	57.2	18.7	2.64	.439
LRF3H010	50'33.92	4'22.09	SX330766	93.	577	34	64.0	19.2	2.43	.439
LRF3H011	50'33.04	4'22.06	SX331750	83.	707	40.7	63	20.7	2.83	.509
LRF3H011	50'33.33	4'22.06	SX331756	74.	711	44.2	56	20.2	2.84	.469
LRF3H012	50'32.56	4'22.01	SX331741	84.	637	42	52.4	19.1	2.58	.439
LRF3H012	50'32.79	4'22.04	SX331746	87.	800	40.2	60.2	20.1	3.06	.509
LRF3H013	50'32.05	4' 22	SX331732	77.	620	33.9	50.4	16.7	2.45	.430
LRF3H013	50'32.32	4' 22	SX331737	73.	476	37.5	54.5	18.2	2.13	.388
LRF3H014	50'31.53	4'21.97	SX331722	83.	563	36.5	54.7	18.2	2.33	.409
LRF3H014	50'31.79	4'21.99	SX331727	95.	606	29.7	59	17.5	2.42	.418
LRF3H015	50'30.97	4'21.88	SX332712	93.	679	44.2	52.9	19.6	2.75	.479
LRF3H015	50'31.26	4'21.93	SX331717	74.	618	41.5	46	17.7	2.5	.409
LRF3H016	50' 30.4	4' 21.8	SX332701	97.	879	48.7	64.9	22.7	3.43	.560
LRF3H016	50'30.69	4'21.83	SX332707	85.	851	43.5	61	21	3.25	.550
LRF3H017	50'29.77	4'21.78	SX332690	85.	357	31.7	40.4	14.5	1.62	.310
LRF3H017	50' 30.1	4'21.78	SX332696	74.	668	26.5	52.7	15.6	2.5	.439
LRF3H018	50'29.15	4' 21.8	SX331678	94.	855	31.5	78.8	21.5	3.25	.569
LRF3H018	50'29.45	4'21.79	SX332684	91.	787	38.7	67.5	21	3.06	.518
LRF3H019	50' 28.6	4'21.78	SX331668	94.	1096	40.7	81.5	24.1	4.05	.638
LRF3H019	50'28.87	4'21.79	SX331673	68.	944	50	77.0	25.2	3.71	.610
LRF3H020	50'28.04	4'21.79	SX331658	78.	1011	41.5	78.5	23.7	3.78	.620
LRF3H020	50'28.32	4'21.78	SX331663	93.	952	61.7	71.5	27	3.81	.610
LRF3H021	50'27.38	4'21.75	SX330645	103	744	38.2	54	18.5	2.84	.490
LRF3H021	50'27.73	4'21.78	SX330652	90.	883	38.7	69.5	21.2	3.34	.560
LRF3H022	50'26.81	4' 21.7	SX331635	96.	636	26.6	45	14.1	2.35	.409
LRF3H022	50'27.08	4'21.72	SX331640	75.	881	44.2	58.4	20.6	3.32	.509
LRF3H023	50'26.26	4'21.68	SX331625	92.	745	28.7	46.9	15	2.70	.449
LRF3H023	50'26.53	4'21.69	SX331630	83.	678	24.6	48.7	14.3	2.48	.400
LRF3H024	50'25.69	4'21.68	SX330614	90.	916	40.5	67	21.2	3.45	.569
LRF3H024	50'25.98	4'21.67	SX330620	86.	722	46.2	46.2	18.7	2.82	.469
LRF3H025	50'25.13	4'21.62	SX331604	88.	973	39	65.5	20.7	3.56	.560
LRF3H025	50'25.41	4'21.66	SX331609	94.	822	27	57.7	16.6	2.97	.469
LRF3H026	50'24.51	4'21.57	SX331592	89	794	37.7	56.7	18.7	3	.490
LRF3H026	50'24.83	4'21.59	SX331598	79.	895	38.4	57.5	19.2	3.28	.518
LRF3H027	50' 24	4'21.62	SX330583	92.	856	28.2	60.9	17.5	3.08	.5
LRF3H027	50'24.23	4'21.58	SX331587	92.	597	30	42.2	14.5	2.26	.379
LRF3H028	50'23.52	4'21.61	SX330574	90.	614	37.2	58	19	2.50	.439
LRF3H028	50'23.76	4'21.63	SX330579	114	582	29.2	54.5	16.6	2.30	.439
LRF3H029	50'23.03	4'21.56	SX330565	95.	563	37.7	59.9	19.2	2.40	.430
LRF3H029	50'23.28	4'21.59	SX330570	87.	587	34.2	55.5	17.7	2.40	.400
LRF3H030	50'22.53	4' 21.5	SX330556	93.	595	42	57	19.7	2.50	.439

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3H030	50'22.78	4'21.53	SX330560	98.	591	34.9	73.5	21.2	2.52	.469
LRF3H031	50'21.95	4'21.42	SX331545	95.	664	35.5	65.5	20	2.69	.479
LRF3H031	50'22.25	4'21.46	SX331551	89.	658	39.9	66.9	21.2	2.74	.469
LRF3H032	50' 21.5	4' 21.4	SX331537	75.	702	38	68.4	21.1	2.83	.469
LRF3H032	50' 21.7	4' 21.4	SX332540	111	746	27.1	71.0	19.1	2.84	.509
LRF3I001	50'39.05	4'21.75	SX338861	60.	704	42.5	59.5	20.5	2.82	.460
LRF3I001	50'38.75	4'21.65	SX340856	81.	566	34	57	18.1	2.33	.409
LRF3I002	50'38.43	4'21.53	SX340850	121	582	37.4	52.7	18.1	2.40	.449
LRF3I002	50'38.08	4'21.38	SX342843	100	624	44.7	50.2	19.2	2.57	.460
LRF3I003	50'37.75	4'21.33	SX342837	99.	648	43.5	51.2	19.2	2.65	.460
LRF3I003	50'37.45	4'21.38	SX342832	98.	634	53	56.9	22.2	2.75	.479
LRF3I004	50'37.18	4' 21.4	SX342827	83.	602	47.5	54.7	20.7	2.57	.469
LRF3I004	50'36.93	4' 21.4	SX341822	97.	618	34.2	52.2	17.2	2.46	.430
LRF3I005	50' 36.7	4' 21.4	SX341818	92.	692	42.7	60.4	20.7	2.80	.460
LRF3I005	50' 36.5	4' 21.4	SX341814	75.	672	51.7	59.2	22.5	2.84	.479
LRF3I006	50' 36.3	4' 21.4	SX341811	76.	932	33	76.4	21.2	3.47	.550
LRF3I006	50' 36.1	4' 21.4	SX341807	92.	831	41.5	62.7	20.7	3.20	.550
LRF3I007	50' 35.9	4'21.38	SX341803	85.	1003	38.7	69.5	21.2	3.68	.610
LRF3I007	50' 35.7	4'21.33	SX341799	88.	1123	33.2	79.9	22.1	4.01	.629
LRF3I008	50'35.47	4'21.28	SX341795	110	908	31.1	67.3	19.2	3.30	.550
LRF3I008	50'35.22	4'21.23	SX342791	95.	875	36.9	64.4	20.1	3.26	.560
LRF3I009	50' 35	4'21.18	SX342786	97.	1006	31.6	56.9	17.5	3.50	.569
LRF3I009	50' 34.8	4'21.13	SX343783	81.	1003	39	71.4	21.7	3.70	.578
LRF3I010	50'34.55	4' 21.1	SX343778	81.	792	56.2	69.0	25.2	3.29	.540
LRF3I010	50'34.25	4' 21.1	SX343773	92.	573	46.5	55	20.5	2.5	.439
LRF3I011	50' 34	4' 21.1	SX343768	84.	504	40.9	55.9	19.2	2.25	.418
LRF3I011	50' 33.8	4' 21.1	SX342764	66.	550	38.7	50	17.7	2.29	.400
LRF3I012	50' 33.6	4' 21.1	SX342761	74.	579	42.5	62.7	21	2.50	.430
LRF3I012	50' 33.4	4' 21.1	SX342757	92.	576	30	56.2	17	2.30	.409
LRF3I013	50'33.18	4' 21.1	SX342753	83.	411	33.4	44.5	15.6	1.83	.319
LRF3I013	50'32.93	4' 21.1	SX342748	86.	519	34.4	54.9	17.7	2.21	.388
LRF3I014	50'32.68	4' 21.1	SX342744	94.	563	36.7	39.9	15.6	2.25	.400
LRF3I014	50'32.43	4' 21.1	SX342739	96.	586	29.5	42.7	14.3	2.25	.370
LRF3I015	50'32.18	4' 21.1	SX341734	92.	560	26.2	42.2	13.6	2.14	.349
LRF3I015	50'31.93	4' 21.1	SX341730	103	662	32	48.2	16	2.50	.418
LRF3I016	50'31.68	4'21.08	SX341725	80	611	32.5	53.4	17.1	2.43	.400
LRF3I016	50'31.43	4'21.03	SX342720	101	713	25.2	54.5	15.6	2.63	.439
LRF3I017	50'31.18	4' 21	SX342716	85.	632	31	55.2	17.1	2.48	.430
LRF3I017	50'30.93	4' 21	SX342711	89.	398	30.6	35.9	13.5	1.70	.310
LRF3I018	50'30.65	4'20.99	SX341706	87.	552	20.2	41.5	12.1	2.02	.330
LRF3I018	50'30.35	4'20.96	SX342700	95.	848	33.7	71.9	20.7	3.22	.550
LRF3I019	50'30.05	4'20.93	SX342695	108	671	40	60.7	20.1	2.73	.490
LRF3I019	50'29.75	4'20.91	SX342689	92.	451	32.2	43.5	15.1	1.90	.360
LRF3I020	50'29.48	4'20.88	SX343684	87.	442	40.7	39.5	16.2	1.97	.370
LRF3I020	50'29.23	4'20.83	SX342680	79.	411	28.5	30.2	12	1.65	.300
LRF3I021	50'28.95	4' 20.8	SX343675	96.	544	28.1	53.2	16.1	2.19	.400
LRF3I021	50'28.65	4' 20.8	SX343669	86.	447	33.7	49.7	16.7	1.97	.349
LRF3I022	50'28.35	4'20.78	SX343663	98.	531	30.7	49.7	16.1	2.16	.379
LRF3I022	50'28.05	4'20.73	SX344658	124	589	29.7	48.5	15.5	2.28	.418
LRF3I023	50'27.75	4' 20.7	SX343652	81.	763	37.7	54.5	18.5	2.91	.479
LRF3I023	50'27.45	4' 20.7	SX343647	88.	1112	44	80.3	24.6	4.11	.638
LRF3I024	50'27.18	4'20.71	SX343642	76.	798	28.6	55.2	16.5	2.90	.469
LRF3I024	50'26.93	4'20.73	SX343637	79.	894	39.7	43.2	16.7	3.21	.469
LRF3I025	50'26.68	4'20.76	SX342633	83.	890	35.5	59.2	18.7	3.25	.509
LRF3I025	50'26.43	4'20.79	SX342628	96.	684	33.5	44.7	15.6	2.56	.400
LRF3I026	50'26.15	4'20.79	SX341623	102	792	28.7	43.2	14.3	2.79	.430
LRF3I026	50'25.85	4'20.77	SX341617	77.	746	17	58.7	14.5	2.65	.460
LRF3I027	50'25.58	4'20.76	SX341612	85.	891	30.2	66.5	19	3.25	.540
LRF3I027	50'25.33	4'20.75	SX341608	95.	1016	30.2	70.5	19.7	3.63	.578
LRF3I028	50'25.08	4'20.73	SX342603	98.	858	30.7	63	18.2	3.15	.509
LRF3I028	50'24.83	4'20.71	SX342598	80	772	32.7	73.5	20.7	3	.518
LRF3I029	50'24.55	4'20.72	SX341593	86.	918	27.1	69	18.7	3.29	.528

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3I029	50'24.25	4'20.76	SX340588	86.	813	47.2	58.9	21.2	3.19	.528
LRF3I030	50'23.98	4'20.79	SX340583	96.	927	41	60.2	20.2	3.44	.550
LRF3I030	50'23.73	4' 20.8	SX340578	86.	1033	38.4	69.9	21.2	3.75	.600
LRF3I031	50'23.45	4'20.78	SX340573	101	750	32.7	57.5	17.7	2.82	.490
LRF3I031	50'23.15	4'20.73	SX341567	88.	593	42.2	54.5	19.5	2.5	.449
LRF3I032	50' 22.9	4'20.71	SX340563	84.	567	38.2	52.5	18.2	2.35	.409
LRF3I032	50' 22.7	4'20.72	SX340559	85.	752	51.5	60.7	22.7	3.07	.5
LRF3I033	50'22.45	4'20.72	SX340554	84.	628	39.2	66.5	21	2.64	.469
LRF3I033	50'22.15	4'20.71	SX340549	101	726	35.4	63.4	19.5	2.82	.490
LRF3I034	50' 21.9	4' 20.7	SX340544	98.	746	32.5	64	19	2.85	.490
LRF3I034	50' 21.7	4' 20.7	SX340540	85.	631	42.2	60.5	20.5	2.64	.449
LRF3I035	50'21.48	4'20.74	SX338536	170	395	29.7	37	13.5	1.69	.330
LRF3J001	50' 21.2	4' 21.3	SX332531	88.	495	36.4	47.7	16.7	2.10	.388
LRF3J001	50' 20.8	4' 20.9	SX337524	84.	613	49.7	57.4	21.7	2.66	.439
LRF3J002	50'37.58	4' 20.6	SX340816	108	618	31.5	53.7	16.7	2.44	.430
LRF3J002	50'37.93	4' 20.6	SX340823	116	566	41.2	48.4	18.1	2.35	.449
LRF3J003	50'36.95	4'20.58	SX350823	99.	580	34.5	53.7	17.6	2.35	.418
LRF3J003	50'37.25	4'20.53	SX352828	103	589	35.5	61.4	19.2	2.46	.469
LRF3J004	50'36.43	4'20.83	SX347813	89.	563	44	52.4	19.5	2.43	.439
LRF3J004	50'36.68	4'20.68	SX349818	102	634	31.7	62.4	18.6	2.53	.449
LRF3J005	50'35.85	4' 20.9	SX347802	97.	939	41.7	82.8	24.5	3.64	.600
LRF3J005	50'36.15	4' 20.9	SX347808	80.	819	35	79.4	22.2	3.21	.540
LRF3J006	50'35.33	4'20.83	SX346793	97.	897	37	69.5	21	3.35	.528
LRF3J006	50'35.58	4'20.88	SX347797	88.	834	40.9	63.2	20.7	3.20	.518
LRF3J007	50'34.75	4'20.65	SX349782	102	801	39.5	63.2	20.5	3.08	.528
LRF3J007	50'35.05	4'20.75	SX347787	94.	846	39	66.8	21	3.24	.528
LRF3J008	50'34.15	4'20.45	SX351771	94.	611	39	58.5	19.2	2.52	.449
LRF3J008	50'34.45	4'20.55	SX350776	84.	577	40	64.3	20.7	2.5	.449
LRF3J009	50'33.63	4'20.25	SX352761	92.	503	40.7	50	18.2	2.21	.379
LRF3J009	50'33.88	4'20.35	SX351766	89.	498	35.7	49	17	2.10	.400
LRF3J010	50'33.05	4'20.18	SX353750	90.	505	29.7	52.5	16.2	2.08	.370
LRF3J010	50'33.35	4'20.19	SX353756	96.	483	26	44.5	14	1.94	.349
LRF3J011	50'32.45	4'20.19	SX353739	89.	563	29.2	49.7	15.6	2.23	.379
LRF3J011	50'32.75	4'20.18	SX353745	89.	310	19.1	38.5	11.3	1.34	.25
LRF3J012	50' 32	4' 20.2	SX352731	80.	628	42	46.7	18	2.52	.418
LRF3J012	50' 32.2	4' 20.2	SX352735	85.	573	38	54	18.5	2.39	.400
LRF3J013	50'31.53	4' 20.2	SX352722	85.	522	53	41.5	19.6	2.32	.409
LRF3J013	50'31.78	4' 20.2	SX352727	87.	433	41	39	16.2	1.94	.370
LRF3J014	50'31.03	4'20.13	SX353713	85.	600	39.4	44.7	17.1	2.42	.400
LRF3J014	50'31.28	4'20.18	SX352718	82.	642	32.9	56	17.6	2.51	.418
LRF3J015	50'30.38	4'20.06	SX352701	83.	670	40	52.7	18.6	2.67	.460
LRF3J015	50'30.73	4'20.09	SX352707	99.	535	33.9	47.2	16.2	2.19	.400
LRF3J016	50' 29.9	4'20.01	SX353692	97.	525	35.7	37.9	15	2.10	.370
LRF3J016	50' 30.1	4'20.03	SX353696	68.	351	28.2	34.5	12.6	1.52	.270
LRF3J017	50'29.43	4' 20	SX353683	88.	551	29.2	46.5	15.1	2.18	.388
LRF3J017	50'29.68	4' 20	SX353688	80.	588	34.5	38.4	14.8	2.26	.370
LRF3J018	50'28.93	4' 20	SX352674	112	285	30.2	32	12.6	1.36	.280
LRF3J018	50'29.18	4' 20	SX352679	97.	611	42.4	52.9	19.2	2.52	.449
LRF3J019	50'28.43	4'20.08	SX351665	97.	391	43.5	30.7	15.3	1.78	.340
LRF3J019	50'28.68	4'20.03	SX352670	93.	342	23.7	29.2	10.6	1.40	.270
LRF3J020	50' 28	4' 20.1	SX351657	108	373	23.5	31	11	1.5	.280
LRF3J020	50' 28.2	4' 20.1	SX351661	95.	493	46	39	17.5	2.16	.388
LRF3J021	50' 27.6	4' 20.1	SX350650	79.	1163	42.7	84.3	25	4.26	.638
LRF3J021	50' 27.8	4' 20.1	SX351653	87.	698	30.6	43	14.6	2.55	.409
LRF3J022	50' 27.2	4' 20.1	SX350642	108	927	37.2	68.0	20.7	3.45	.588
LRF3J022	50' 27.4	4' 20.1	SX350646	83.	852	35.2	66.4	20.1	3.21	.518
LRF3J023	50' 26.8	4' 20.1	SX350635	80.	873	41	56.4	19.5	3.25	.509
LRF3J023	50' 27	4' 20.1	SX350638	92.	791	32.2	58.5	17.7	2.95	.509
LRF3J024	50' 26.4	4' 20.1	SX350627	80.	742	28.1	55.7	16.5	2.75	.439
LRF3J024	50' 26.6	4' 20.1	SX350631	77	824	31.7	70.9	20.1	3.10	.518
LRF3J025	50' 26	4' 20.1	SX349620	93.	843	33.5	58.5	18.2	3.09	.479
LRF3J025	50' 26.2	4' 20.1	SX349624	86.	870	38.4	47.2	17.2	3.16	.469

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3J026	50'25.53	4'20.03	SX350611	96	901	28.1	67.3	18.6	3.25	.550
LRF3J026	50'25.78	4'20.08	SX349616	95.	768	32.9	59	18.2	2.90	.469
LRF3J027	50' 25.1	4'19.85	SX352603	95.	1000	32	75	20.7	3.64	.578
LRF3J027	50' 25.3	4'19.95	SX351607	84.	755	38.2	67.5	20.7	2.99	.490
LRF3J028	50' 24.7	4' 19.8	SX353596	84	644	36	52.2	17.7	2.53	.409
LRF3J028	50' 24.9	4' 19.8	SX353600	85.	938	44.5	73.5	23.5	3.58	.569
LRF3J029	50' 24.3	4'19.73	SX352589	95.	973	37.4	70.5	21.2	3.58	.560
LRF3J029	50' 24.5	4'19.78	SX352592	92.	939	29.5	69	19.2	3.40	.560
LRF3J030	50'23.83	4' 19.7	SX353580	96.	870	24.2	58	16	3.05	.490
LRF3J030	50'24.08	4' 19.7	SX353584	77.	856	32.5	59.7	18.2	3.14	.5
LRF3J031	50' 23.4	4'19.63	SX354571	99.	878	31	72.5	20.2	3.25	.540
LRF3J031	50' 23.6	4'19.68	SX353576	86	484	19.2	45.7	12.6	1.87	.319
LRF3J032	50'22.85	4' 19.6	SX353561	96	632	46	63.7	22	2.72	.479
LRF3J032	50'23.15	4' 19.6	SX354566	102	737	41.4	69	21.7	2.99	.509
LRF3J033	50' 22.4	4'19.68	SX352553	90.	590	42.9	65.0	21.6	2.56	.449
LRF3J033	50' 22.6	4'19.63	SX353556	90.	630	41.2	64.5	21.1	2.66	.469
LRF3J034	50'21.93	4'19.78	SX351545	79.	720	41.5	63	20.7	2.90	.479
LRF3J034	50'22.18	4'19.73	SX351549	80.	726	44.7	64.5	21.7	2.96	.479
LRF3J035	50'21.43	4' 19.8	SX350535	111	525	24.2	50	14.6	2.05	.360
LRF3J035	50'21.68	4' 19.8	SX351540	76	742	31.2	59.5	17.7	2.79	.469
LRF3K001	50'39.65	4' 19.7	SX363871	89.	378	25.2	55.4	15.8	1.72	.340
LRF3K001	50'39.35	4' 19.7	SX363866	94.	581	42.7	64.0	21.2	2.52	.439
LRF3K002	50'39.08	4'19.68	SX363861	103	545	44.7	49.4	19.1	2.34	.400
LRF3K002	50'38.83	4'19.63	SX364856	88.	378	29.7	47.7	15.3	1.72	.330
LRF3K003	50'38.55	4' 19.6	SX363851	96.	470	39	34.7	15.1	1.99	.349
LRF3K003	50'38.25	4' 19.6	SX363846	95.	467	32	45	15.3	1.97	.360
LRF3K004	50'37.97	4'19.55	SX364840	90.	666	46.9	63.7	22.2	2.80	.479
LRF3K004	50'37.72	4'19.45	SX365836	86.	861	52.7	69.8	24.7	3.47	.550
LRF3K005	50'37.47	4'19.38	SX366831	88.	934	46.7	74	24	3.60	.569
LRF3K005	50'37.22	4'19.32	SX366827	104	921	41	75.9	23.1	3.51	.588
LRF3K006	50'36.95	4'19.28	SX366822	99.	1016	41.2	86.4	25	3.85	.620
LRF3K006	50'36.65	4'19.23	SX366816	106	815	50.7	65.4	23.2	3.26	.560
LRF3K007	50'36.33	4' 19.2	SX367810	102	871	50.5	59.7	22.2	3.39	.550
LRF3K007	50'35.97	4' 19.2	SX367803	91.	694	32	51.4	16.6	2.63	.430
LRF3K008	50'35.68	4' 19.2	SX367798	102	776	38.7	56	18.7	2.97	.5
LRF3K008	50'35.43	4' 19.2	SX366793	96.	595	45.7	59.2	21.1	2.56	.439
LRF3K009	50'35.18	4'19.25	SX365789	89.	660	28.5	54.7	16.2	2.50	.439
LRF3K009	50'34.93	4'19.35	SX364784	85.	503	30.2	50.7	16.1	2.07	.388
LRF3K010	50'34.68	4'19.42	SX363780	94.	606	32	60	18.1	2.45	.439
LRF3K010	50'34.43	4'19.48	SX362775	105	624	37.5	58.7	19.2	2.54	.460
LRF3K011	50'34.15	4'19.53	SX362770	111	474	35.2	45.2	16.2	2.01	.379
LRF3K011	50'33.85	4'19.58	SX360764	93	533	44.4	62	21.2	2.42	.430
LRF3K012	50'33.55	4'19.63	SX360759	114	557	32.2	54.5	17.2	2.26	.409
LRF3K012	50'33.25	4'19.68	SX359753	97.	395	30.7	34.2	13.1	1.66	.310
LRF3K013	50'32.95	4'19.73	SX358748	92.	403	18	34.4	10.3	1.53	.270
LRF3K013	50'32.65	4'19.78	SX358742	107	490	19.2	37.5	11.1	1.83	.310
LRF3K014	50'32.35	4'19.78	SX357736	95.	559	30.7	43.7	14.8	2.20	.388
LRF3K014	50'32.05	4'19.73	SX357731	82	523	44.7	58.2	20.7	2.35	.400
LRF3K015	50'31.78	4' 19.7	SX358726	95.	585	41.7	49.7	18.5	2.44	.439
LRF3K015	50'31.53	4' 19.7	SX358721	83	786	42.2	73.8	23	3.16	.518
LRF3K016	50'31.28	4'19.63	SX359717	87.	775	37	54.2	18.2	2.93	.479
LRF3K016	50'31.03	4'19.48	SX360712	91.	687	40	52.4	18.6	2.72	.449
LRF3K017	50'30.75	4'19.38	SX361707	103	739	39.2	50.4	18.1	2.82	.469
LRF3K017	50'30.45	4'19.32	SX361701	100	589	41.2	53.7	19.1	2.47	.418
LRF3K018	50' 30.2	4'19.32	SX361697	101	547	39.4	52.2	18.2	2.31	.418
LRF3K018	50' 30	4'19.38	SX361693	88.	385	21.2	35.9	11.3	1.54	.280
LRF3K019	50'29.75	4' 19.4	SX360688	91.	352	24.6	29.7	11	1.46	.259
LRF3K019	50'29.45	4' 19.4	SX360683	93.	447	21	36.7	11.3	1.73	.280
LRF3K020	50'29.18	4'19.38	SX360678	124	422	17.2	33.5	10	1.59	.300
LRF3K020	50'28.93	4'19.32	SX360673	86.	639	31	46.2	15.3	2.43	.418
LRF3K021	50'28.65	4' 19.3	SX360668	92.	499	44.4	50.4	19.2	2.24	.409
LRF3K021	50'28.35	4' 19.3	SX360662	98	488	42.4	41.7	17.2	2.13	.360

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3K022	50'28.05	4'19.28	SX361657	102	522	36	46.7	16.6	2.18	.388
LRF3K022	50'27.75	4'19.23	SX360651	111	456	33.2	36.7	14.1	1.88	.349
LRF3K023	50'27.45	4' 19.2	SX361646	75.	562	31.7	50.5	16.2	2.25	.409
LRF3K023	50'27.15	4' 19.2	SX361640	102	931	49.2	69.5	23.7	3.59	.629
LRF3K024	50'26.88	4'19.23	SX360635	84.	896	33	59.5	18.2	3.25	.518
LRF3K024	50'26.63	4'19.28	SX360631	81	744	25.7	54.7	15.8	2.72	.418
LRF3K025	50'26.38	4' 19.3	SX359626	79.	933	36.2	78.5	22.5	3.51	.550
LRF3K025	50'26.13	4' 19.3	SX358621	91.	878	29.2	58.4	17.2	3.15	.490
LRF3K026	50'25.88	4' 19.3	SX358617	88.	916	33.7	58	18.2	3.29	.518
LRF3K026	50'25.63	4' 19.3	SX358612	103	756	31.5	44.5	15.1	2.75	.430
LRF3K027	50'25.35	4'19.32	SX358607	107	726	37.2	54.2	18.2	2.78	.469
LRF3K027	50'25.05	4'19.38	SX358601	99.	849	38	61.7	19.7	3.20	.509
LRF3K028	50'24.78	4' 19.4	SX357596	133	775	26	55.5	16	2.79	.5
LRF3K028	50'24.53	4' 19.4	SX356592	90.	865	23.2	60	16.2	3.04	.490
LRF3K029	50'24.25	4' 19.4	SX356587	85.	1010	33.5	81.5	22.2	3.73	.588
LRF3K029	50'23.95	4' 19.4	SX356581	91.	803	43.7	68.9	22.2	3.19	.528
LRF3K030	50' 23.7	4'19.38	SX357576	79.	582	21	49.7	13.8	2.19	.370
LRF3K030	50' 23.5	4'19.32	SX357573	113	635	28.5	59.2	17.2	2.49	.439
LRF3K031	50' 23.3	4'19.25	SX358569	111	584	45.7	51.7	19.7	2.5	.449
LRF3K031	50' 23.1	4'19.15	SX358565	89.	571	48.9	51.2	20.2	2.49	.439
LRF3K032	50'22.88	4' 19.1	SX359561	86.	519	41.5	63	20.7	2.33	.409
LRF3K032	50'22.63	4' 19.1	SX359557	101	614	38.5	48.9	17.6	2.48	.418
LRF3K033	50'22.38	4'19.05	SX359552	84.	774	46.2	60.7	21.5	3.07	.5
LRF3K033	50'22.13	4'18.95	SX361547	120	668	35.9	65.4	20	2.71	.518
LRF3K034	50' 21.9	4'18.88	SX361543	76.	774	43.9	70.9	22.7	3.13	.5
LRF3K034	50' 21.7	4'18.82	SX362539	111	572	32	66.3	19.2	2.41	.460
LRF3K035	50'21.55	4'18.88	SX360537	86.	236	8.27	20.7	5.63	.888	.140
LRF3L001	50' 39.4	4'19.09	SX370867	121	503	36	45.2	16.2	2.10	.379
LRF3L001	50'39.25	4'18.89	SX372864	93.	492	34.5	48.2	16.6	2.07	.388
LRF3L002	50'39.06	4'18.78	SX374861	84.	526	37.4	53.5	18.2	2.25	.409
LRF3L002	50'38.82	4'18.77	SX374856	88.	572	31.1	52.2	16.5	2.28	.379
LRF3L003	50'38.58	4'18.75	SX373852	99.	371	18.2	41.9	11.8	1.50	.289
LRF3L003	50'38.33	4'18.72	SX373847	112	538	25.2	50.5	14.8	2.10	.388
LRF3L004	50'38.06	4'18.69	SX374842	105	460	28.7	46	14.8	1.90	.370
LRF3L004	50'37.77	4'18.68	SX374837	92.	517	42.5	48	18.2	2.25	.409
LRF3L005	50'37.49	4'18.66	SX374832	94	571	45.2	55.2	20.2	2.48	.449
LRF3L005	50'37.22	4'18.65	SX374827	98.	705	31.2	60.5	18.1	2.72	.469
LRF3L006	50'36.95	4'18.63	SX373822	100	506	33.2	46.7	16	2.08	.400
LRF3L006	50'36.68	4' 18.6	SX374817	100	545	24.7	51.4	15	2.14	.409
LRF3L007	50'36.41	4'18.57	SX374812	101	541	38	51.2	17.7	2.27	.400
LRF3L007	50'36.16	4'18.52	SX375807	102	522	25.2	40.5	13.1	2	.370
LRF3L008	50'35.91	4'18.54	SX374802	89.	499	26.2	36.5	12.6	1.91	.319
LRF3L008	50'35.66	4'18.61	SX374798	90	504	18.6	36	10.8	1.85	.319
LRF3L009	50'35.42	4'18.64	SX372793	102	472	23.2	22	9.26	1.72	.300
LRF3L009	50'35.17	4'18.61	SX373789	93.	493	27.2	34.5	12.5	1.89	.340
LRF3L010	50'34.92	4'18.58	SX373784	90.	418	22.7	36.5	11.8	1.65	.300
LRF3L010	50'34.68	4'18.53	SX374780	65	389	27.7	45	14.5	1.71	.310
LRF3L011	50'34.41	4' 18.5	SX374775	101	477	31.2	44.4	15.1	1.98	.379
LRF3L011	50' 34.1	4'18.47	SX374769	80.	405	22.7	43.2	13	1.66	.310
LRF3L012	50'33.82	4'18.45	SX374764	94.	552	32.7	43.7	15.3	2.20	.400
LRF3L012	50'33.55	4'18.41	SX374759	74.	563	41.7	50	18.5	2.38	.418
LRF3L013	50'33.24	4'18.38	SX374753	82	405	19	32.7	10.3	1.54	.270
LRF3L013	50'32.89	4'18.32	SX375746	90.	569	32.5	44.4	15.3	2.25	.388
LRF3L014	50'32.55	4'18.25	SX376740	107	706	31.7	61.7	18.2	2.74	.460
LRF3L014	50'32.24	4'18.16	SX376734	112	880	28.2	59.2	17.2	3.15	.528
LRF3L015	50'31.95	4' 18.1	SX377729	108	936	41.9	64.5	21.2	3.5	.560
LRF3L015	50'31.69	4'18.08	SX377724	87	830	58.4	63.5	24.7	3.40	.578
LRF3L016	50'31.67	4'18.07	SX377724	79.	808	48.2	70	23.6	3.25	.560
LRF3L016	50'31.88	4'18.06	SX377728	83.	796	48.5	51.5	20.2	3.09	.560
LRF3L017	50' 31.6	4'18.05	SX377723	79.	870	53	69	24.6	3.49	.588
LRF3L017	50'30.82	4'18.04	SX376708	96.	1038	44.7	69.5	22.7	3.83	.620
LRF3L018	50' 30.3	4'18.03	SX377699	98.	808	33.5	57.2	18	3	.509

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3L018	50'30.04	4'18.02	SX377694	87.	586	36.2	37	15	2.27	.379
LRF3L019	50'29.76	4'18.03	SX377689	102	282	5.51	26.7	6.15	1.00	.188
LRF3L019	50'29.45	4'18.04	SX376683	81.	232	10.1	21.7	6.28	.910	.188
LRF3L020	50'29.19	4'18.04	SX375678	79.	439	33.7	48.5	16.5	1.94	.349
LRF3L020	50'28.96	4'18.02	SX376674	83.	486	23.7	47.7	14.1	1.94	.360
LRF3L021	50'28.72	4'18.05	SX375669	94.	648	38	60.9	19.7	2.65	.449
LRF3L021	50'28.47	4'18.12	SX374665	83.	535	27.7	44.7	14.3	2.08	.370
LRF3L022	50'28.22	4'18.16	SX374660	89.	550	31.7	52	16.7	2.24	.400
LRF3L022	50'27.97	4'18.15	SX374655	86	442	29.7	41.5	14.3	1.85	.340
LRF3L023	50'27.71	4'18.15	SX373651	97.	473	37	42.4	16.1	2.01	.360
LRF3L023	50'27.44	4'18.17	SX373646	97.	562	33.7	42.7	15.3	2.23	.370
LRF3L024	50'27.18	4'18.15	SX373641	100	872	38	53.5	18.2	3.21	.509
LRF3L024	50'26.93	4' 18.1	SX374636	87.	856	43.4	73.4	23.2	3.34	.569
LRF3L025	50'26.63	4'18.07	SX374631	99.	765	52.7	62	23.2	3.15	.540
LRF3L025	50'26.28	4'18.04	SX374624	85	832	35.5	66.5	20.2	3.16	.509
LRF3L026	50'25.98	4'18.04	SX373619	74.	755	24.2	62.2	16.7	2.77	.469
LRF3L026	50'25.71	4'18.05	SX373614	76.	821	40.2	50.2	18.2	3.05	.490
LRF3L027	50'25.42	4'18.08	SX373608	89.	757	34.5	64	19.5	2.92	.479
LRF3L027	50'25.11	4'18.12	SX372602	94.	962	40.2	60	20	3.50	.528
LRF3L028	50' 24.8	4'18.15	SX372597	81.	884	24.7	58	16.2	3.09	.469
LRF3L028	50'24.49	4'18.16	SX371591	91.	860	28.1	65.4	18.2	3.14	.490
LRF3L029	50'24.21	4'18.17	SX371586	87.	590	23.7	44.7	13.5	2.21	.360
LRF3L029	50'23.97	4'18.17	SX371581	91.	407	23.5	26.2	10.1	1.57	.25
LRF3L030	50'23.71	4'18.16	SX371577	70	420	16.6	29.2	9.09	1.53	.259
LRF3L030	50'23.43	4'18.13	SX371571	77.	464	25.1	45.2	13.8	1.87	.310
LRF3L031	50'23.14	4'18.08	SX371566	95.	321	18.1	24.7	8.60	1.25	.230
LRF3L031	50'22.85	4' 18	SX372561	95.	685	36.9	62.2	19.7	2.74	.479
LRF3L032	50'22.51	4'17.92	SX373554	94.	620	27.5	56.5	16.5	2.41	.418
LRF3L032	50'22.13	4'17.83	SX374547	98.	637	39	64	20.5	2.65	.469
LRF3L033	50'21.83	4'17.76	SX375542	85.	648	45	55.2	20.2	2.69	.460
LRF3L033	50' 21.6	4'17.73	SX375538	72.	689	40.4	60.7	20.2	2.77	.439
LRF3L034	50'21.47	4' 17.9	SX372535	147	301	8.93	31.7	7.80	1.13	.230
LRF1M001	50'39.57	4' 17.6	SX388869	95.	495	48.5	46	19.2	2.25	.439
LRF1M001	50'39.25	4'17.61	SX387864	92.	540	46.7	58.5	21.2	2.44	.430
LRF1M002	50'38.96	4' 17.6	SX388858	83.	512	30.7	48.2	15.6	2.08	.370
LRF1M002	50'38.67	4'17.59	SX388852	112	421	29	31.7	12.3	1.71	.310
LRF3M003	50'38.27	4'17.83	SX384846	102	493	33.7	50.5	16.7	2.08	.400
LRF3M003	50'37.98	4'17.89	SX383841	94.	464	30.1	50.7	16	1.98	.388
LRF3M004	50' 37.7	4'17.91	SX383835	89.	687	34.2	51.2	17.1	2.64	.449
LRF3M004	50'37.41	4' 17.9	SX383830	107	897	45.5	64.4	22	3.44	.560
LRF3M005	50'37.13	4'17.89	SX383825	96.	711	34.7	49.7	16.7	2.70	.469
LRF3M005	50'36.84	4'17.86	SX383820	83.	859	31.6	68.5	19.6	3.20	.518
LRF3M006	50'36.56	4'17.85	SX383814	92.	498	18.1	38.2	11.1	1.84	.319
LRF3M006	50'36.27	4'17.84	SX383809	88.	496	18.2	23.2	8.39	1.73	.280
LRF3M007	50' 36	4'17.84	SX383804	94.	517	35	47	16.5	2.15	.379
LRF3M007	50'35.76	4'17.85	SX383800	86.	719	33	55	17.5	2.74	.449
LRF3M008	50'35.52	4'17.85	SX382795	99	711	31.7	31.2	12.8	2.52	.379
LRF3M008	50'35.29	4'17.86	SX382791	105	810	20.2	33.7	10.6	2.69	.388
LRF3M009	50'35.03	4'17.85	SX382786	108	443	21.2	35.2	11.1	1.71	.310
LRF3M009	50'34.74	4'17.84	SX382781	95.	378	25.2	39	12.8	1.61	.300
LRF3M010	50'34.48	4'17.62	SX384776	77.	366	16.6	38.2	10.6	1.46	.270
LRF3M010	50'34.23	4'17.21	SX389770	96.	477	30.2	36.5	13.5	1.90	.330
LRF3M011	50' 33.9	4'18.01	SX379765	87.	482	33.2	47.5	16.1	2.02	.360
LRF3M011	50'33.65	4'17.94	SX380760	94.	510	26.5	36.9	12.6	1.96	.340
LRF3M012	50'33.42	4'17.67	SX383756	104	582	23.2	38.2	12.1	2.13	.349
LRF3M012	50'33.06	4'17.75	SX382750	92.	713	31.2	39.9	14.3	2.58	.418
LRF3M013	50'32.73	4'17.78	SX381743	95.	718	28.2	52	15.8	2.66	.439
LRF3M013	50'32.42	4'17.75	SX381738	97.	757	33	40.5	14.8	2.74	.449
LRF3M014	50'32.15	4'17.72	SX381733	99.	903	35	63	19.2	3.30	.550
LRF3M014	50'31.94	4'17.69	SX382729	83.	900	35.5	70.9	20.7	3.38	.578
LRF1M015	50'30.99	4'17.53	SX383711	80.	993	68	73.3	28.7	4.03	.670
LRF1M015	50'31.24	4'17.56	SX383716	77.	1085	87.9	67.5	32.2	4.48	.759

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF1M016	50'30.43	4'17.47	SX383701	85.	881	45	63.2	21.7	3.38	.569
LRF1M016	50'30.72	4'17.51	SX383706	86.	992	47.9	64.4	22.5	3.73	.600
LRF1M017	50'29.76	4' 17.4	SX384689	115	529	30	43.5	14.6	2.08	.360
LRF1M017	50'30.11	4'17.44	SX383695	124	436	27.2	38.5	13.1	1.77	.349
LRF1M018	50' 29.2	4'17.33	SX384677	100	676	37.2	60.5	19.2	2.71	.469
LRF1M018	50'29.46	4'17.36	SX384683	91.	593	41.4	54.5	19.2	2.49	.418
LRF1M019	50'28.57	4'17.29	SX384666	96.	519	30.7	48.5	15.8	2.10	.388
LRF1M019	50' 28.9	4' 17.3	SX384672	94.	448	30.2	47.2	15.3	1.89	.349
LRF1M020	50'28.06	4'17.25	SX385656	91.	601	32.7	55	17.2	2.41	.439
LRF1M020	50'28.29	4'17.27	SX385660	70.	673	38.5	57.2	19.1	2.69	.449
LRF1M021	50'27.53	4'17.26	SX384646	89.	505	39	45	17	2.16	.379
LRF1M021	50' 27.8	4'17.24	SX384651	80.	563	39.2	42.9	16.7	2.28	.388
LRF1M022	50'26.96	4'17.23	SX384636	96.	708	35.5	65	19.7	2.79	.490
LRF1M022	50'27.25	4'17.25	SX384641	94.	556	37.5	50.4	17.7	2.30	.409
LRF1M023	50'26.47	4'17.19	SX384627	101	1048	32.7	71.5	20.2	3.75	.588
LRF1M023	50' 26.7	4'17.21	SX384631	88	988	34.5	79.5	22.2	3.67	.578
LRF1M024	50'25.94	4'17.18	SX384617	97.	739	46.9	62.7	22	3	.509
LRF1M024	50'26.22	4'17.18	SX384622	86.	803	35.7	59.9	19	3.02	.479
LRF1M025	50'25.45	4'17.18	SX384608	89.	624	34.5	58	18.2	2.50	.439
LRF1M025	50'25.68	4'17.18	SX384612	65.	437	23.7	35.2	11.8	1.72	.300
LRF1M026	50'25.02	4'17.18	SX384600	86.	862	28.2	46.2	14.8	3	.479
LRF1M026	50'25.23	4'17.18	SX384604	92.	830	45.7	51.5	19.7	3.17	.5
LRF1M027	50'24.61	4'17.18	SX383592	69.	690	31.7	48.5	16	2.58	.418
LRF1M027	50'24.82	4'17.18	SX384596	86	908	27.7	50.7	15.5	3.16	.460
LRF1M028	50'24.13	4'17.17	SX383583	88.	661	25.1	56.7	16	2.5	.409
LRF1M028	50'24.38	4'17.17	SX383588	112	503	22.1	48.2	13.8	1.97	.340
LRF1M029	50'23.67	4'17.14	SX383575	74.	714	29	56	16.7	2.69	.430
LRF1M029	50' 23.9	4'17.15	SX383579	87.	969	31.7	68	19.6	3.5	.550
LRF1M030	50'23.26	4'17.14	SX383567	89.	215	13.8	14.3	5.73	.850	.158
LRF1M030	50'23.46	4'17.13	SX383571	89.	546	19.7	41.5	12	2	.330
LRF1M031	50'22.79	4'17.18	SX382559	102	285	17.1	39.5	11.1	1.25	.259
LRF1M031	50'23.04	4'17.15	SX382563	86.	164	2.13	13.8	2.99	.569	9
LRF1M032	50'22.34	4'17.19	SX381551	78.	708	33	74	21	2.82	.469
LRF1M032	50'22.56	4'17.19	SX381555	92.	685	34	56	17.7	2.67	.430
LRF1M033	50'21.83	4'17.19	SX381542	108	742	31.5	63	18.6	2.82	.469
LRF1M033	50' 22.1	4'17.19	SX381547	100	730	38	61.7	19.7	2.85	.490
LRF1M034	50'21.48	4'17.23	SX380535	72.	580	34.7	51	17.2	2.33	.388
LRF1M034	50'21.63	4' 17.2	SX381538	86.	629	31	55.2	17.1	2.47	.388
LRF1M035	50'21.38	4'17.41	SX378533	111	216	13.6	24.2	7.46	.920	.170
LRF3N001	50'38.43	4'17.13	SX392848	100	434	21.2	33.4	10.8	1.65	.319
LRF3N001	50'38.68	4'17.15	SX393853	93.	411	36.2	35.2	14.6	1.78	.310
LRF3N002	50' 37.9	4'17.09	SX393838	106	519	36.2	51.7	17.6	2.21	.409
LRF3N002	50'38.17	4'17.11	SX392843	79.	547	24.7	52.9	15.3	2.16	.379
LRF3N003	50'37.44	4'17.11	SX392830	85.	923	41.5	73	22.7	3.50	.578
LRF3N003	50'37.66	4'17.09	SX393834	75.	929	49.5	69.5	23.7	3.59	.600
LRF3N004	50'36.93	4'17.08	SX392820	98.	598	24.2	42.5	13.1	2.22	.388
LRF3N004	50' 37.2	4'17.11	SX392825	88.	777	44.7	62.5	21.5	3.07	.528
LRF3N005	50'36.41	4'16.97	SX393811	92.	505	39.7	43.2	16.7	2.15	.379
LRF3N005	50'36.67	4'17.04	SX392815	88.	891	18.5	23.2	8.39	2.79	.379
LRF3N006	50'35.91	4'16.81	SX395801	84.	798	21.7	51.5	14.3	2.78	.439
LRF3N006	50'36.16	4' 16.9	SX394806	100	791	41.7	60.4	20.2	3.06	.5
LRF3N007	50' 35.5	4'16.77	SX394794	88	484	22	24.2	9.39	1.75	.280
LRF3N007	50'35.69	4'16.76	SX396797	82	377	22.2	38.9	12.1	1.57	.289
LRF3N008	50'35.03	4'16.79	SX394785	111	346	28.7	26.7	11.3	1.47	.280
LRF3N008	50'35.28	4'16.78	SX394790	81.	690	16.5	26.2	8.5	2.25	.349
LRF3N009	50'34.38	4'16.69	SX395773	85.	291	22.6	25.7	9.77	1.24	.238
LRF3N009	50'34.73	4'16.76	SX395779	74.	346	14.1	31.2	8.89	1.33	.238
LRF3N010	50'33.87	4'16.72	SX394764	81.	407	25.7	35.7	12.3	1.65	.310
LRF3N010	50'34.15	4'16.73	SX395769	95.	408	26.2	36.2	12.5	1.66	.310
LRF3N011	50'33.42	4'16.77	SX393755	97.	688	42.4	56.5	19.7	2.76	.469
LRF3N011	50'33.63	4'16.73	SX394759	95.	625	27.5	47.2	14.8	2.34	.418
LRF3N012	50' 33	4'16.83	SX393747	87.	714	39.7	50.5	18.2	2.75	.449

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3N012	50'33.21	4' 16.8	SX393751	88.	664	30.2	45.4	15.1	2.49	.430
LRF3N013	50'32.55	4'16.83	SX393739	97.	787	33.7	60	18.6	2.97	.5
LRF3N013	50'32.78	4'16.83	SX393743	82.	563	25.6	50.4	15	2.19	.370
LRF3N014	50'32.13	4'16.82	SX392731	101	902	34.5	65.8	19.7	3.31	.560
LRF3N014	50'32.34	4'16.82	SX392735	96	935	40.9	64.5	21	3.49	.560
LRF3N015	50'31.64	4'16.85	SX391722	89.	894	45.4	63.7	21.7	3.43	.578
LRF3N015	50' 31.9	4'16.83	SX392727	95.	883	43.2	62.5	21.2	3.34	.560
LRF3N016	50'31.08	4'16.91	SX391712	84.	761	52.2	68.3	24.2	3.18	.600
LRF3N016	50'31.37	4'16.88	SX391717	100	924	50.4	74.5	25	3.64	.648
LRF3N017	50'30.55	4'16.93	SX390702	96.	868	50	70.5	24.2	3.46	.620
LRF3N017	50'30.81	4'16.93	SX390707	78.	1008	54.9	67.5	24.7	3.85	.629
LRF3N018	50'30.05	4' 16.8	SX391693	103	506	32.7	39.9	14.6	2.03	.370
LRF3N018	50' 30.3	4'16.89	SX390698	81	605	38	51.9	18	2.46	.409
LRF1N019	50'28.71	4'16.59	SX393668	75.	431	33.5	39.5	14.6	1.85	.330
LRF1N019	50'28.94	4' 16.6	SX392672	95.	605	30.2	47.2	15.3	2.32	.400
LRF1N020	50'28.22	4' 16.6	SX392659	81.	738	47.4	51.2	20.1	2.93	.490
LRF1N020	50'28.47	4'16.59	SX393664	102	547	30.6	50.5	16.1	2.21	.388
LRF1N021	50'27.79	4'16.53	SX392651	100	494	31.7	47.5	15.8	2.04	.379
LRF1N021	50' 28	4'16.58	SX393655	85	629	36.2	59.5	19	2.54	.449
LRF1N022	50'27.38	4'16.44	SX393643	99	803	42.5	63.7	21.2	3.14	.528
LRF1N022	50'27.58	4'16.49	SX393647	69.	694	37.2	57.4	18.7	2.74	.449
LRF1N023	50'26.93	4'16.41	SX394635	79.	896	36.2	59.9	19.1	3.28	.528
LRF1N023	50'27.16	4'16.42	SX394639	87.	709	42.7	58.5	20.2	2.83	.509
LRF1N024	50'26.45	4'16.41	SX394626	86.	951	27.7	61	17.2	3.33	.540
LRF1N024	50'26.69	4'16.41	SX394631	85.	897	43.7	71.0	22.7	3.47	.550
LRF1N025	50'25.98	4' 16.4	SX393618	96	909	40.9	62	20.6	3.40	.540
LRF1N025	50'26.21	4' 16.4	SX393622	99.	850	33.7	65.5	19.5	3.18	.540
LRF1N026	50'25.53	4'16.34	SX394609	84.	695	43.2	56.2	20	2.78	.460
LRF1N026	50'25.75	4'16.38	SX393613	96.	885	39.5	64.8	20.7	3.32	.540
LRF1N027	50'25.05	4'16.37	SX393600	97.	623	24.2	36.5	12.1	2.24	.400
LRF1N027	50' 25.3	4'16.34	SX394605	99.	674	33.7	50.9	16.7	2.57	.449
LRF1N028	50'24.46	4'16.45	SX391589	77.	499	28.7	44	14.5	2	.330
LRF1N028	50'24.77	4' 16.4	SX393595	128	538	17.5	29.6	9.35	1.87	.340
LRF1N029	50'23.93	4'16.46	SX391580	92.	691	30.6	48.2	15.6	2.56	.439
LRF1N029	50'24.18	4'16.47	SX391584	118	554	28.2	38	13.3	2.09	.370
LRF1N030	50'22.73	4'16.42	SX391557	82.	943	28.2	63.9	18	3.34	.550
LRF1N030	50'23.45	4'16.45	SX391571	114	901	40.2	60.7	20.1	3.34	.560
LRF1N031	50'22.66	4'16.33	SX392556	109	789	33.7	59.9	18.5	2.97	.5
LRF1N031	50'22.47	4'16.38	SX391553	101	853	34	59.9	18.6	3.15	.509
LRF1N032	50'22.64	4' 16.3	SX392556	89.	702	31.2	63.9	18.7	2.73	.479
LRF1N033	50'21.89	4'16.31	SX392542	99.	619	36.4	57.2	18.6	2.50	.418
LRF1N033	50'22.17	4' 16.3	SX392547	132	501	28.7	47	15	2.02	.370
LRF1N034	50'21.37	4'16.33	SX391532	89.	952	45.4	67.3	22.5	3.59	.578
LRF1N034	50'21.62	4'16.32	SX392537	95.	535	32	48.5	16.1	2.18	.388
LRF1N035	50'21.16	4' 16.4	SX390528	100	241	8.31	16.7	4.92	.870	.158
LRF3O001	50'39.92	4'16.57	SX400875	67.	561	55	53.5	22.2	2.54	.430
LRF3O001	50'39.56	4'16.64	SX399869	93.	534	51.9	52.7	21.2	2.44	.460
LRF3O002	50'39.24	4'16.63	SX399863	93.	533	46.7	41.2	18.1	2.28	.400
LRF3O002	50'38.97	4'16.52	SX400858	89.	443	37.7	38.2	15.5	1.90	.340
LRF3O003	50'38.67	4'16.41	SX401852	100	372	29.7	37.4	13.6	1.62	.310
LRF3O003	50'38.34	4'16.31	SX402846	85.	430	34	40.4	15.1	1.86	.330
LRF3O004	50'38.05	4'16.24	SX403841	90.	484	41	34.7	15.6	2.03	.349
LRF3O004	50'37.78	4'16.21	SX403836	99.	407	27.2	45.4	14.3	1.75	.340
LRF3O005	50'37.49	4'16.18	SX403831	127	727	32	56.5	17.6	2.75	.518
LRF3O005	50'37.16	4'16.16	SX404824	103	796	39.5	65.9	20.7	3.08	.518
LRF3O006	50'36.87	4'16.16	SX403819	95.	743	28.2	56.7	16.7	2.75	.490
LRF3O006	50' 36.6	4'16.17	SX403814	93.	662	20.6	44.5	12.6	2.34	.379
LRF3O007	50'36.03	4'16.35	SX400804	83.	361	12.6	25.2	7.44	1.29	.238
LRF3O007	50'35.78	4'16.25	SX402799	81	259	22	21.2	8.85	1.12	.200
LRF3O008	50'35.53	4' 16.2	SX401794	113	382	9.68	34.2	8.43	1.38	.25
LRF3O008	50' 35.3	4'16.19	SX401790	76.	292	22.2	35.7	11.6	1.29	.259
LRF3O009	50'35.02	4' 16.2	SX401785	98.	461	14	29.7	8.56	1.62	.289

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3O009	50'34.69	4'16.21	SX401779	90.	495	37.4	41.7	16	2.07	.370
LRF3O010	50'34.39	4'16.19	SX401773	83.	488	32.2	44.7	15.3	2.01	.349
LRF3O010	50'34.13	4'16.16	SX402768	91.	620	31.2	56	17.2	2.46	.418
LRF3O011	50'33.89	4'16.15	SX401764	89.	578	38.2	46.2	17.1	2.33	.409
LRF3O011	50'33.67	4'16.16	SX401760	104	586	30.7	53	16.6	2.31	.430
LRF3O012	50'33.45	4'16.17	SX401756	82.	783	46	56	20.6	3.06	.509
LRF3O012	50'33.23	4'16.17	SX401752	85.	729	38	58.7	19.2	2.83	.479
LRF3O013	50' 33	4'16.15	SX401747	77.	585	35	44	16	2.30	.388
LRF3O013	50'32.77	4' 16.1	SX401743	103	783	36	59.9	19.1	2.99	.509
LRF3O014	50'32.54	4'16.06	SX402739	99.	635	29.1	44.2	14.6	2.39	.418
LRF3O014	50'32.31	4'16.03	SX401735	76.	781	39.9	69.5	21.7	3.07	.528
LRF3O015	50'32.06	4'15.98	SX402730	102	797	42.2	56	19.7	3.05	.518
LRF3O015	50'31.79	4'15.92	SX402725	84.	1111	52.9	76	25.7	4.19	.699
LRF3O016	50'31.54	4' 15.9	SX403720	86.	876	38.2	77	22.7	3.39	.588
LRF3O016	50'31.32	4'15.92	SX402716	79	909	60	69	26.1	3.67	.610
LRF3O017	50'31.06	4'15.92	SX402712	84.	733	31.2	64.0	18.7	2.80	.479
LRF3O017	50'30.76	4'15.89	SX402706	89.	817	37.7	68.5	21	3.16	.528
LRF3O018	50'30.48	4'15.87	SX402701	94.	837	36	77	22.2	3.25	.540
LRF3O018	50'30.22	4'15.87	SX402696	103	700	24.7	58.5	16.2	2.59	.469
LRF3O019	50'29.98	4'15.87	SX402692	117	495	26.2	38.4	13	1.91	.360
LRF3O019	50'29.76	4'15.86	SX402688	82	611	38	38.7	15.6	2.39	.400
LRF3O020	50'29.46	4'15.88	SX402682	100	641	38	48.5	17.2	2.52	.439
LRF3O020	50'29.09	4'15.91	SX401675	96.	703	31.1	55.7	17.2	2.68	.460
LRF3O021	50'28.81	4'15.92	SX400670	83.	496	32.7	48.2	16.2	2.06	.360
LRF3O021	50'28.62	4'15.92	SX400666	84.	493	30.1	56.2	17	2.08	.379
LRF3O022	50'28.41	4'15.92	SX400663	63.	565	34.2	44.7	15.8	2.25	.379
LRF3O022	50'28.16	4'15.91	SX401658	102	526	37.4	46.7	16.7	2.20	.400
LRF3O023	50'27.91	4'15.91	SX401653	100	790	36.7	58.5	18.7	3	.518
LRF3O023	50'27.66	4' 15.9	SX400649	89.	622	46.7	51.2	19.7	2.59	.449
LRF3O024	50'27.39	4'15.88	SX400644	109	603	44.2	47.7	18.7	2.5	.449
LRF3O024	50' 27.1	4'15.85	SX400638	62.	678	33.4	58.5	18.2	2.66	.439
LRF3O025	50'26.82	4'15.82	SX401633	100	941	35	68	20.2	3.46	.560
LRF3O025	50'26.53	4'15.79	SX401628	101	750	27.7	64.5	18	2.81	.479
LRF3O026	50'26.25	4'15.76	SX401623	95.	992	29.7	75.4	20.2	3.57	.588
LRF3O026	50'25.96	4'15.72	SX401617	101	850	40.5	60.5	20.2	3.22	.540
LRF3O027	50'25.69	4'15.67	SX401612	96.	841	37.7	68.4	21	3.22	.540
LRF3O027	50'25.46	4' 15.6	SX402608	82.	937	32.5	70.5	20.2	3.44	.550
LRF3O028	50'25.21	4'15.57	SX403603	109	940	34.2	61	18.7	3.40	.578
LRF3O028	50'24.95	4'15.58	SX403599	88.	771	26.2	60.2	16.7	2.82	.439
LRF3O029	50'24.67	4'15.56	SX402593	93.	629	25.7	35	12.1	2.25	.370
LRF3O029	50'24.36	4'15.51	SX402588	82.	654	18.5	44.2	12.1	2.29	.379
LRF3O030	50'24.06	4'15.45	SX403582	100	611	27.2	41.9	13.8	2.26	.388
LRF3O030	50'23.75	4'15.36	SX404576	120	741	17.2	56.2	14.1	2.60	.449
LRF3O031	50'23.45	4'15.28	SX405571	93.	835	36	59.7	19	3.10	.528
LRF3O031	50'23.16	4'15.21	SX405565	103	610	24.7	45.4	13.8	2.26	.379
LRF3O032	50'22.89	4'15.14	SX406560	97.	712	26.1	43.5	13.8	2.54	.409
LRF3O033	50'22.39	4'15.04	SX407551	119	596	19.7	40.2	11.8	2.15	.340
LRF3O033	50'22.12	4'15.01	SX407546	99.	846	32.4	56	17.5	3.06	.5
LRF3O034	50'21.88	4' 15.1	SX406542	90.	802	46.5	62.9	22	3.18	.528
LRF3O034	50'21.66	4'15.31	SX404538	127	598	33	51.4	16.7	2.38	.449
LRF3O035	50'21.45	4'15.48	SX401534	83.	618	34	62.5	19	2.51	.409
LRF3O035	50'21.26	4' 15.6	SX399530	83.	719	38.7	53.5	18.5	2.78	.469
LRFP001.	50'38.95	4'15.34	SX414858	93.	521	46.9	43.5	18.5	2.26	.409
LRFP001.	50'39.21	4'15.37	SX414862	94.	649	51.2	50.4	20.7	2.73	.469
LRFP002.	50'38.51	4' 15.3	SX414849	113	385	36.7	33.7	14.5	1.72	.319
LRFP002.	50'38.72	4'15.31	SX415853	74.	714	58	66.5	25.2	3.08	.528
LRFP003.	50'37.99	4'15.25	SX414840	79.	357	30.1	30.6	12.3	1.52	.270
LRFP003.	50'38.27	4'15.28	SX414845	91.	575	27.2	44.5	14.3	2.20	.379
LRFP004.	50'37.51	4'15.22	SX415831	91.	844	41.4	66	21.2	3.25	.550
LRFP004.	50'37.74	4'15.23	SX415835	68.	641	39.5	52.5	18.5	2.57	.449
LRFP005.	50'37.02	4'15.24	SX414822	91.	339	31.7	22.2	11.3	1.46	.238
LRFP005.	50'37.27	4'15.22	SX415826	80.	730	35	74.9	21.6	2.93	.5

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRFP006.	50'36.45	4'15.13	SX415810	96	328	30.2	21.2	10.6	1.38	.230
LRFP006.	50'36.74	4'15.21	SX414817	87.	502	39.5	33.5	15	2.05	.360
LRFP007.	50'35.97	4'15.11	SX415801	84.	327	23.1	36.5	11.8	1.40	.259
LRFP007.	50'36.19	4' 15.1	SX415805	90	275	20.2	25.6	9.27	1.15	.209
LRFP008.	50' 35.4	4'15.13	SX414792	104	451	28.5	28.2	11.6	1.75	.300
LRFP008.	50'35.71	4'15.12	SX415797	90.	257	19.6	31.2	10.1	1.13	.230
LRFP009.	50'34.86	4'15.15	SX414782	81	585	27.6	30.7	11.8	2.14	.340
LRFP009.	50'35.12	4'15.14	SX414787	76.	716	32.5	30.7	12.8	2.53	.379
LRFP010.	50'34.22	4'15.12	SX414770	98	526	38.9	49.7	17.7	2.25	.388
LRFP010.	50'34.56	4'15.14	SX414776	104	660	35.5	50.2	17.2	2.56	.439
LRFP011.	50'33.68	4'15.15	SX413760	95.	667	37.4	50.2	17.6	2.60	.449
LRFP011.	50'33.93	4'15.12	SX413765	119	721	35	52.7	17.5	2.75	.5
LRFP012.	50'33.09	4'15.14	SX413749	116	783	43.4	70.4	22.6	3.14	.528
LRFP012.	50' 33.4	4'15.15	SX413755	109	686	33.7	50.2	16.7	2.60	.469
LRFP013.	50'32.61	4'15.14	SX413740	77.	742	36.4	47.2	16.7	2.77	.449
LRFP013.	50'32.83	4'15.13	SX413744	87.	1021	30.6	71.5	20	3.65	.569
LRFP014.	50'32.09	4'15.11	SX412731	108	808	45.7	64.5	22.1	3.20	.540
LRFP014.	50'32.37	4'15.13	SX412736	103	700	34.7	65.5	19.7	2.76	.479
LRFP015.	50'31.58	4'15.23	SX411721	86.	762	47.2	55.4	20.7	3.01	.509
LRFP015.	50'31.83	4'15.14	SX412726	95.	892	48.7	66	23	3.47	.578
LRFP016.	50'30.95	4'15.27	SX410710	81.	893	48.7	62.7	22.2	3.45	.578
LRFP016.	50'31.28	4'15.27	SX410716	81.	854	50	65.9	23.2	3.39	.540
LRFP017.	50'30.43	4'15.22	SX410700	90.	779	44.2	62.9	21.2	3.07	.540
LRFP017.	50'30.66	4'15.25	SX409704	90.	842	41.9	64	21.1	3.24	.550
LRFP018.	50' 29.8	4'15.06	SX412688	125	512	33.4	36.2	14.1	2.03	.360
LRFP018.	50'30.14	4'15.15	SX411695	101	867	38.5	67.5	21.1	3.28	.550
LRFP019.	50'29.17	4'14.94	SX412677	94.	589	41.7	58.5	20.1	2.5	.449
LRFP019.	50'29.48	4'14.99	SX412682	101	450	33.2	44.4	15.6	1.91	.360
LRFP020.	50'28.68	4'14.86	SX413667	109	467	42.7	45.2	17.7	2.08	.400
LRFP020.	50'28.91	4'14.89	SX413671	79.	691	35.2	57.4	18.2	2.71	.449
LRFP021.	50'28.22	4'14.81	SX414658	104	639	43.7	47.2	18.5	2.57	.439
LRFP021.	50'28.45	4'14.83	SX413662	83.	513	46.2	50.4	19.6	2.28	.388
LRFP022.	50'27.73	4'14.86	SX412649	106	539	28.1	41.4	13.8	2.07	.379
LRFP022.	50'27.98	4'14.82	SX413654	80.	606	35.2	47.5	16.6	2.41	.418
LRFP023.	50'27.28	4'14.85	SX412641	91.	837	41.9	60.7	20.5	3.21	.540
LRFP023.	50'27.49	4'14.87	SX412645	91.	845	44.2	61.9	21.2	3.25	.550
LRFP024.	50'26.72	4'14.78	SX413630	92	786	45.7	67.8	22.7	3.16	.540
LRFP024.	50'27.02	4'14.82	SX412636	88.	827	59.5	69.5	26.1	3.45	.569
LRFP025.	50'26.14	4'14.57	SX414620	91.	815	49.2	66.5	23.2	3.25	.560
LRFP025.	50'26.43	4' 14.7	SX414625	122	880	53.5	73.3	25.2	3.53	.620
LRFP026.	50'25.66	4'14.36	SX417611	103	874	43.9	63.2	21.2	3.33	.550
LRFP026.	50'25.89	4'14.45	SX416615	80.	713	48.2	59	21.7	2.93	.479
LRFP027.	50'25.17	4'14.45	SX416602	81.	910	43.2	62.7	21.2	3.43	.550
LRFP027.	50'25.42	4'14.36	SX417606	88.	867	41.7	66	21.2	3.30	.540
LRF3Q001	50'39.27	4'14.58	SX423862	90.	601	47.9	53.5	20.6	2.56	.439
LRF3Q001	50'39.04	4'14.51	SX424858	82.	444	36.7	51	17.6	2	.360
LRF3Q002	50'38.79	4'14.45	SX425854	101	519	55.9	42.7	20.2	2.38	.439
LRF3Q002	50'38.53	4'14.39	SX425849	80.	407	36.7	34	14.5	1.76	.330
LRF3Q003	50'38.26	4'14.34	SX425844	81.	546	31.5	45.7	15.3	2.18	.409
LRF3Q003	50'37.97	4'14.31	SX426838	80.	416	47.2	41.9	18.2	1.99	.340
LRF3Q004	50' 37.7	4'14.33	SX425833	97.	638	44.7	44	18.1	2.56	.439
LRF3Q004	50'37.44	4' 14.4	SX424829	102	840	30.6	67	19.1	3.13	.528
LRF3Q005	50'37.19	4'14.42	SX424824	84.	700	36.9	57	18.7	2.75	.479
LRF3Q005	50'36.94	4'14.37	SX424819	88.	378	31.1	29.5	12.3	1.61	.280
LRF3Q006	50'36.66	4'14.32	SX424814	106	582	33	24.7	12	2.15	.330
LRF3Q006	50'36.34	4'14.27	SX425808	92.	458	26.2	29	11.1	1.75	.319
LRF3Q007	50'35.99	4'14.24	SX425802	83.	211	11.8	18.7	6.09	.850	.170
LRF3Q007	50' 35.6	4'14.25	SX425795	85.	313	31.5	34.5	13.3	1.47	.270
LRF3Q008	50'35.25	4'14.25	SX424788	98.	484	19.2	36	10.8	1.78	.310
LRF3Q008	50'34.95	4'14.25	SX424783	83.	649	26.2	47	14.5	2.41	.388
LRF3Q009	50'34.66	4'14.25	SX424777	106	696	37	46	16.7	2.66	.449
LRF3Q009	50'34.38	4'14.24	SX424772	97.	571	30.7	52	16.2	2.27	.409

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3Q010	50' 34.1	4'14.23	SX424767	106	565	28.7	47.4	15.1	2.22	.409
LRF3Q010	50'33.81	4'14.23	SX423761	85.	615	35.7	44.7	16.2	2.42	.400
LRF3Q011	50'33.53	4'14.24	SX423756	95.	747	50	55.5	21.2	3.00	.5
LRF3Q011	50'33.25	4'14.25	SX423751	102	888	44.7	60	21	3.35	.560
LRF3Q012	50'32.97	4'14.26	SX423746	104	878	36	62.7	19.6	3.25	.540
LRF3Q012	50'32.68	4'14.25	SX423741	86.	618	34.4	51.5	17.2	2.46	.418
LRF3Q013	50'32.39	4'14.25	SX422735	117	705	30.7	53.7	16.7	2.66	.469
LRF3Q013	50'32.09	4'14.24	SX422730	112	745	38	59.2	19.2	2.90	.5
LRF3Q014	50' 31.8	4'14.23	SX422724	118	864	50.7	62.5	22.7	3.40	.588
LRF3Q014	50'31.51	4'14.22	SX423719	90.	982	76.8	58.2	28	4	.660
LRF3Q015	50'31.25	4'14.24	SX422714	83.	923	60	73.0	26.7	3.74	.629
LRF3Q015	50'31.02	4'14.29	SX422710	95.	924	44.5	78.0	24.2	3.58	.600
LRF3Q016	50'30.79	4'14.29	SX421706	96.	868	68.5	63.7	27.1	3.63	.638
LRF3Q016	50'30.56	4'14.24	SX421701	96.	961	48.5	70.8	23.7	3.69	.610
LRF3Q017	50'30.33	4'14.22	SX422697	86.	909	44.5	78.5	24.2	3.54	.578
LRF3Q017	50'30.12	4'14.23	SX421693	97.	835	43.2	68.8	22.2	3.25	.550
LRF3Q018	50'29.86	4'14.22	SX422688	85.	768	44.7	58.7	20.7	3.02	.490
LRF3Q018	50'29.57	4'14.19	SX422683	75	658	41.7	51.5	18.7	2.65	.439
LRF3Q019	50'29.34	4'14.18	SX421679	81.	514	39.2	45.2	17.1	2.18	.388
LRF3Q019	50'29.19	4'14.18	SX421676	78.	689	40	62.9	20.5	2.78	.460
LRF3Q020	50'28.98	4'14.15	SX421672	97	921	50	65	23.2	3.54	.588
LRF3Q020	50'28.73	4'14.08	SX422667	94.	904	39.5	63.5	20.5	3.38	.560
LRF3Q021	50'28.49	4'14.03	SX423663	87.	634	54.5	59.9	23.2	2.78	.479
LRF3Q021	50'28.27	4' 14	SX423659	110	828	60.5	53.5	23.2	3.33	.540
LRF3Q022	50'28.06	4'13.95	SX424655	105	447	33.5	42.2	15.3	1.89	.349
LRF3Q022	50'27.87	4'13.89	SX425652	92.	266	24.1	23	9.60	1.15	.200
LRF3Q023	50'27.66	4'13.84	SX424648	103	809	43.9	64.5	21.7	3.18	.518
LRF3Q023	50'27.45	4'13.79	SX425644	101	605	43.7	58.7	20.6	2.56	.449
LRF3Q024	50'27.22	4'13.74	SX425640	100	338	24.2	25.1	10.1	1.37	.259
LRF3Q024	50'26.97	4'13.69	SX426635	89.	943	50.4	77.5	25.5	3.72	.610
LRF3Q025	50' 26.7	4'13.67	SX426630	92.	939	45.7	72.3	23.5	3.59	.600
LRF3Q025	50'26.43	4'13.68	SX426625	90.	914	42.9	68.0	22.1	3.48	.578
LRF3Q026	50'26.18	4'13.67	SX425620	98	891	55.5	66	24.6	3.53	.578
LRF3Q026	50'25.95	4'13.66	SX425616	69.	653	43.5	57.5	20.2	2.70	.460
LRF3Q027	50'25.72	4'13.64	SX425612	102	608	46.5	58.7	21.2	2.60	.449
LRF3Q027	50'25.51	4'13.61	SX426608	68.	752	38.9	57.4	19.2	2.92	.5
LRF3R001	50'39.08	4'13.74	SX433859	85	614	46	52.9	20.1	2.57	.449
LRF3R001	50'39.29	4'13.77	SX433863	88.	664	45.4	60.2	21.2	2.75	.479
LRF3R002	50'38.59	4'13.76	SX432850	99.	497	42	39	16.6	2.13	.379
LRF3R002	50'38.84	4'13.74	SX433855	96.	480	63.5	38	21.2	2.31	.449
LRF3R003	50'38.15	4' 13.8	SX432842	113	448	29	38.2	13.5	1.83	.349
LRF3R003	50'38.36	4'13.78	SX432846	86.	535	35.7	41.4	15.6	2.17	.379
LRF3R004	50'37.68	4'13.76	SX432833	90.	964	53.5	68.0	24.5	3.74	.600
LRF3R004	50'37.93	4'13.79	SX432838	95.	591	67.4	55.2	25.2	2.78	.5
LRF3R005	50'36.97	4' 13.7	SX432820	113	403	23.7	40.4	12.6	1.64	.319
LRF3R005	50'37.37	4'13.73	SX432827	104	608	30.2	48.2	15.6	2.34	.418
LRF3R006	50'36.35	4'13.65	SX432808	88	915	31.1	32.4	12.8	3.07	.460
LRF3R006	50'36.64	4'13.67	SX432814	88.	703	31.1	21.6	11	2.44	.379
LRF3R007	50'35.69	4'13.62	SX433796	92	299	23.2	32	11.1	1.29	.259
LRF3R007	50'36.04	4'13.63	SX433803	113	266	22	23	9.14	1.13	.230
LRF3R008	50'35.06	4'13.82	SX429785	95.	583	34.2	47.2	16.2	2.31	.400
LRF3R008	50'35.37	4'13.68	SX431790	93.	563	37.5	36	15.1	2.23	.370
LRF3R009	50' 34.4	4'13.91	SX428772	91.	625	33.4	51.2	16.7	2.46	.418
LRF3R009	50'34.74	4' 13.9	SX428779	92.	511	34.7	54	17.7	2.19	.409
LRF3R010	50'33.77	4'13.83	SX428761	95.	553	39	51.7	18.2	2.31	.418
LRF3R010	50'34.08	4'13.89	SX429766	89.	710	40.4	40.4	16.5	2.70	.430
LRF3R011	50'33.15	4'13.69	SX430749	93.	850	26.2	58.7	16.6	3.02	.5
LRF3R011	50'33.46	4'13.76	SX429755	103	727	36	55.4	18.2	2.78	.479
LRF3R012	50'32.61	4'13.61	SX431739	102	862	32.7	50.5	16.6	3.07	.528
LRF3R012	50'32.86	4'13.64	SX430744	84.	802	35.5	52.5	17.6	2.98	.479
LRF3R013	50'32.09	4'13.49	SX431730	91.	823	37.4	53.2	18.1	3.04	.5
LRF3R013	50'32.35	4'13.56	SX430734	99.	782	38	55.5	18.7	2.97	.5

Filename	Position	Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3R014	50'31.57 4'13.36	SX433720	96.	885	78.0	45.7	26	3.66	.629
LRF3R014	50'31.83 4'13.42	SX432725	71.	791	83	45.5	27.1	3.46	.610
LRF3R015	50'31.07 4'13.28	SX434711	85	880	57.9	68.9	25.6	3.55	.610
LRF3R015	50'31.32 4'13.31	SX433715	88.	833	66.4	53	24.7	3.43	.588
LRF3R016	50'30.52 4'13.19	SX434701	104	858	36.7	61.5	19.5	3.21	.540
LRF3R016	50'30.81 4'13.24	SX433706	88.	883	50.4	66	23.2	3.47	.600
LRF3R017	50'30.06 4'13.14	SX434692	84.	871	42.4	58	20.2	3.27	.540
LRF3R017	50'30.27 4'13.16	SX434696	95.	835	41.7	63.2	20.7	3.22	.540
LRF3R018	50'29.56 4'13.09	SX435683	98.	319	25.6	30.2	11.3	1.37	.270
LRF3R018	50'29.83 4'13.12	SX435688	117	567	30.1	42.5	14.6	2.20	.400
LRF3R019	50'29.04 4'13.05	SX434673	100	287	22.7	22.1	9.21	1.21	.218
LRF3R019	50'29.29 4'13.07	SX434678	96.	625	42.2	46.2	18	2.51	.439
LRF3R020	50'28.55 4'13.06	SX434664	94.	460	31	35.7	13.5	1.87	.330
LRF3R020	50'28.79 4'13.05	SX434669	102	517	35.2	55.2	18	2.22	.388
LRF3R021	50'28.06 4'13.09	SX434655	78.	615	24.1	36.4	12.1	2.22	.349
LRF3R021	50'28.31 4'13.08	SX434660	89.	621	20.2	40.4	12	2.22	.360
LRF3R022	50'27.51 4'13.08	SX433645	108	834	39.2	62.9	20.2	3.18	.540
LRF3R022	50' 27.8 4'13.09	SX433650	107	151	13.8	13.1	5.5	.670	.140
LRF3R023	50'27.02 4'13.05	SX433636	93.	763	44.5	65.5	22	3.05	.528
LRF3R023	50'27.25 4'13.07	SX433640	75.	969	49.5	77.4	25.2	3.75	.610
LRF3R024	50'26.54 4'13.14	SX432627	87	887	32.4	70.4	20.1	3.28	.540
LRF3R024	50'26.78 4'13.07	SX433631	100	932	48.7	71.5	24.1	3.60	.600
LRF3R025	50'26.05 4'12.43	SX440617	89.	755	50.4	55.7	21.6	3.03	.509
LRF3R025	50' 26.3 4'12.92	SX435623	97.	949	51.5	69.5	24.2	3.69	.588
LRF3R026	50'25.54 4'12.92	SX434608	88	247	14.5	12.1	5.48	.930	.170
LRF3R026	50' 25.8 4'12.43	SX440612	91.	732	39.2	59.2	19.7	2.88	.5
LRF3R027	50'25.03 4' 13	SX433599	90.	898	36.5	71.9	21.2	3.39	.560
LRF3R027	50'25.28 4'13.11	SX432604	98	925	33.7	66	19.7	3.39	.569
LRF3S001	50'39.96 4'13.01	SX442875	87.	558	57	56.2	23.1	2.57	.469
LRF3S001	50'39.67 4'12.88	SX443870	97.	488	63	40.4	21.6	2.34	.439
LRF3S002	50'39.41 4'12.78	SX445864	80.	551	44.7	51.2	19.2	2.39	.430
LRF3S002	50'39.18 4'12.72	SX445860	79.	519	34.5	51	17.1	2.18	.388
LRF3S003	50'38.94 4'12.67	SX446855	92	478	24.7	46.9	14.1	1.91	.349
LRF3S003	50'38.69 4'12.63	SX446851	103	428	26.6	41	13.5	1.75	.319
LRF3S004	50'38.43 4'12.59	SX446846	75.	529	34.2	42.2	15.3	2.15	.379
LRF3S004	50'38.15 4'12.56	SX446841	86.	290	27.1	26.6	11	1.28	.25
LRF3S005	50'37.85 4'12.53	SX447835	102	381	32.5	39.5	14.5	1.70	.330
LRF3S005	50'37.52 4' 12.5	SX447829	67.	664	57.2	57.9	23.5	2.90	.5
LRF3S006	50'37.21 4'12.47	SX447823	90.	754	36	54.5	18.1	2.85	.469
LRF3S006	50' 36.9 4'12.46	SX446818	81.	661	30.7	54.4	16.7	2.53	.418
LRF3S007	50'36.61 4'12.42	SX447812	87.	389	18.2	25.5	8.77	1.46	.25
LRF3S007	50'36.35 4'12.36	SX448807	83.	476	36	44.7	16.2	2.02	.370
LRF3S008	50'36.07 4'12.36	SX448802	96.	317	28.1	34.7	12.6	1.44	.259
LRF3S008	50'35.79 4'12.41	SX447797	89	291	26.1	28.2	11.1	1.28	.25
LRF3S009	50'35.51 4'12.44	SX446792	92.	376	29.5	47	15.1	1.70	.360
LRF3S009	50'35.23 4'12.44	SX446787	78.	337	25.7	32	11.6	1.45	.259
LRF3S010	50'35.04 4'12.46	SX445783	102	598	28.7	32	12.3	2.20	.370
LRF3S010	50'34.96 4' 12.5	SX445782	88.	614	35	47.7	16.6	2.43	.409
LRF3S011	50'34.65 4'12.54	SX444776	107	470	38.5	36.4	15.3	1.99	.370
LRF3S011	50'34.13 4'12.58	SX444766	108	691	35.5	60.9	19.1	2.74	.479
LRF3S012	50'33.71 4'12.62	SX443759	88.	651	35	60.2	18.7	2.59	.449
LRF3S012	50'33.38 4'12.67	SX442753	88.	608	34.5	48.7	16.7	2.41	.409
LRF3S013	50'33.04 4'12.72	SX441747	91.	618	33.2	46.9	16	2.41	.418
LRF3S013	50'32.69 4'12.79	SX441741	104	739	37	51.5	17.7	2.79	.469
LRF3S014	50' 32.3 4'12.71	SX440734	103	987	41	57.2	19.7	3.56	.550
LRF3S014	50'31.88 4'12.48	SX443725	102	642	39.5	51.4	18.2	2.56	.439
LRF3S015	50'31.54 4'12.38	SX444718	111	759	63.9	48	23.2	3.16	.569
LRF3S015	50'31.28 4'12.39	SX444714	100	795	58.2	52	22.6	3.22	.578
LRF3S016	50'31.02 4'12.36	SX445709	87.	713	69	50.7	24.7	3.10	.550
LRF3S016	50'30.76 4' 12.3	SX444704	97.	758	37	53.2	18.1	2.88	.490
LRF3S017	50'30.47 4'12.26	SX445699	95.	923	40.9	64.8	21	3.46	.560
LRF3S017	50'30.17 4'12.24	SX445693	94.	700	42.2	46.7	18	2.74	.469

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3S018	50'29.85	4'12.24	SX445687	95.	761	37.7	64.5	20.2	2.98	.509
LRF3S018	50'29.53	4'12.27	SX445681	89.	681	51.7	52.2	21.2	2.82	.469
LRF3S019	50'29.25	4' 12.3	SX443676	77.	522	40.2	39.7	16.2	2.18	.388
LRF3S019	50' 29	4'12.34	SX443671	90.	714	37	53.4	18.1	2.75	.460
LRF3S020	50'28.73	4'12.36	SX443666	104	816	42.4	66.3	21.6	3.19	.550
LRF3S020	50'28.42	4'12.35	SX443661	76	805	50.2	69.5	24	3.26	.560
LRF3S021	50'28.18	4'12.34	SX443656	75.	921	54	75.5	26	3.68	.620
LRF3S021	50'27.99	4'12.33	SX443653	75.	1052	50.2	63.9	23	3.91	.600
LRF3S022	50'27.79	4'12.32	SX442649	101	876	40	55	19.1	3.25	.560
LRF3S022	50'27.58	4'12.31	SX442645	110	739	31.6	50.2	16.2	2.74	.460
LRF3S025	50'26.53	4'12.25	SX443626	100	606	33.2	47.9	16.2	2.38	.400
LRF3S025	50'26.28	4'12.24	SX442621	91.	815	36.5	66.5	20.2	3.10	.518
LRF3S026	50'26.06	4'12.22	SX442617	91.	1084	49	81	25.7	4.11	.648
LRF3S026	50'25.87	4'12.21	SX442614	107	870	42.4	59.5	20.2	3.27	.540
LRF3S027	50'25.68	4'12.19	SX443610	99	676	25.2	46	14.1	2.47	.388
LRF3T001	50' 39.1	4'11.96	SX454858	81.	579	34	58.2	18.2	2.39	.430
LRF3T001	50'39.34	4'11.94	SX455863	87.	464	46.4	56.7	20.7	2.21	.379
LRF3T002	50'38.63	4'12.02	SX453850	76.	575	38.2	61.5	19.7	2.45	.439
LRF3T002	50'38.86	4'11.99	SX454854	109	585	38.7	58.2	19.2	2.46	.430
LRF3T003	50'38.16	4'12.04	SX452841	73	183	16.7	15.3	6.55	.810	.158
LRF3T003	50'38.39	4'12.04	SX452845	98.	473	29.7	36	13.3	1.88	.330
LRF3T004	50'37.62	4'12.07	SX452831	114	786	36.9	57	18.7	2.98	.528
LRF3T004	50' 37.9	4'12.05	SX452836	96.	407	35.5	40.4	15.3	1.82	.340
LRF3T005	50' 37	4'12.07	SX451819	101	481	20.2	32	10.3	1.76	.300
LRF3T005	50'37.32	4'12.08	SX452825	101	751	48.5	45.4	19.2	2.94	.469
LRF3T006	50'36.37	4'12.05	SX451808	90.	317	28.6	37.4	13.3	1.47	.280
LRF3T006	50'36.68	4'12.06	SX451814	101	543	57.2	46.7	21.5	2.49	.469
LRF3T007	50'35.78	4'12.07	SX451797	93.	326	23.7	45.5	13.6	1.49	.289
LRF3T007	50'36.06	4'12.06	SX451802	87.	315	18.1	27.7	9.14	1.25	.230
LRF3T008	50'35.26	4'12.03	SX451787	85.	445	37.5	41	16	1.95	.370
LRF3T008	50'35.51	4'12.06	SX450792	97.	351	42.9	40	17	1.75	.340
LRF3T009	50'34.76	4'12.01	SX451778	98.	399	29.6	35.4	13.1	1.69	.289
LRF3T009	50'35.01	4'12.01	SX451783	92.	313	21.2	30.2	10.3	1.32	.259
LRF3T010	50' 34.3	4'11.94	SX452770	97.	543	39.2	47.4	17.5	2.26	.388
LRF3T010	50'34.53	4'11.99	SX451774	115	377	49.2	43.5	19	1.90	.370
LRF3T011	50'33.75	4' 11.9	SX451759	106	813	40.4	64	20.7	3.15	.509
LRF3T011	50'34.04	4'11.91	SX451765	98.	519	36.2	40.4	15.6	2.13	.379
LRF3T012	50'33.17	4'11.83	SX452749	116	757	46.5	57.2	20.7	3.00	.528
LRF3T012	50'33.45	4'11.87	SX451754	98.	719	56.5	49.7	21.7	2.98	.5
LRF3T013	50'32.53	4'11.74	SX453737	103	796	35.2	47.7	16.7	2.93	.490
LRF3T013	50'32.86	4'11.79	SX452743	90.	742	35.2	54.4	17.7	2.80	.460
LRF3T014	50'31.87	4'11.68	SX453725	105	798	43.7	61.7	21.1	3.13	.540
LRF3T014	50' 32.2	4'11.71	SX452731	89.	730	43.5	60.5	20.7	2.93	.509
LRF3T015	50' 31.4	4'11.65	SX453716	92.	863	45.7	57.4	20.7	3.28	.550
LRF3T015	50'31.61	4'11.66	SX453720	93.	959	44.5	66.9	22.2	3.59	.560
LRF3T016	50'30.87	4'11.69	SX452706	83.	877	36	66.0	20.2	3.26	.528
LRF3T016	50'31.15	4'11.66	SX453711	95.	1026	56.4	69.4	25.2	3.95	.620
LRF3T017	50'30.42	4' 11.6	SX453698	108	720	29.6	52.5	16.2	2.68	.5
LRF3T017	50'30.63	4'11.67	SX452702	99	680	37.9	52.5	18.1	2.67	.460
LRF3T018	50'29.96	4' 11.4	SX455689	82.	507	24.5	35.7	12	1.90	.319
LRF3T018	50'30.19	4'11.51	SX454693	112	570	34	51.7	17.1	2.30	.400
LRF3T019	50'29.43	4'11.49	SX453679	92.	898	47.9	63	22.2	3.46	.588
LRF3T019	50' 29.7	4' 11.4	SX455684	106	823	22.6	49.7	14.1	2.84	.479
LRF3T020	50'28.78	4'11.68	SX451667	89	910	49	59.2	21.7	3.48	.550
LRF3T020	50'29.12	4'11.58	SX452674	87	863	55.5	64.4	24.2	3.46	.578
LRF3T021	50'28.12	4'11.59	SX452655	94.	954	44.5	71.5	23.1	3.63	.588
LRF3T021	50'28.45	4'11.68	SX451661	83.	835	49.9	61.2	22.2	3.28	.550
LRF3T022	50'27.59	4'11.52	SX452645	93.	899	39.4	76.8	22.7	3.46	.610
LRF3T022	50'27.84	4'11.53	SX451650	131	925	38.2	73.9	22.1	3.5	.638
LRF3T023	50'27.14	4'11.48	SX452637	95.	873	37.7	66.9	20.7	3.28	.550
LRF3T023	50'27.36	4' 11.5	SX452641	109	847	43.9	72.5	23.2	3.32	.560
LRF3T024	50'26.63	4'11.42	SX453628	92.	880	56	77.8	26.7	3.59	.610

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3T024	50' 26.9	4'11.45	SX452633	76.	956	41.7	68.0	21.7	3.56	.578
LRF3T025	50'26.13	4'11.06	SX456618	82.	984	40.7	78.5	23.5	3.72	.578
LRF3T025	50'26.37	4'11.29	SX454623	111	894	36	56.5	18.5	3.25	.540
LRF3U001	50'39.42	4' 11.2	SX463864	79.	494	44.5	57.7	20.6	2.26	.400
LRF3U001	50'39.01	4'11.05	SX465857	80.	524	47	49.7	19.7	2.32	.409
LRF3U002	50' 38.7	4'10.97	SX465851	80.	329	39.2	38.4	15.8	1.62	.330
LRF3U002	50' 38.5	4'10.94	SX465847	88.	476	52	51	21	2.25	.418
LRF3U003	50'38.29	4'10.94	SX465843	93.	392	36.7	34	14.5	1.74	.319
LRF3U003	50'38.06	4'10.96	SX465839	58.	474	34.5	48.2	16.6	2.02	.360
LRF3U004	50'37.81	4'10.97	SX465834	97.	719	48.7	64	22.7	2.99	.528
LRF3U004	50'37.54	4'10.98	SX465829	101	708	41.9	64	21.1	2.88	.518
LRF3U005	50' 37.3	4'10.98	SX465825	93	882	30.7	59.7	17.7	3.19	.550
LRF3U005	50'37.09	4'10.98	SX464821	69	621	33.7	39.9	14.8	2.38	.360
LRF3U006	50'36.86	4'10.97	SX464817	96	488	50	41.5	18.7	2.21	.400
LRF3U006	50'36.59	4'10.96	SX464812	87.	550	46.2	41.7	18.1	2.32	.388
LRF3U007	50'36.31	4'10.96	SX464807	94.	401	23.2	32.2	11.1	1.60	.289
LRF3U007	50'36.02	4'10.97	SX464801	87.	432	41	39	16.2	1.94	.349
LRF3U008	50'35.75	4'10.97	SX464796	88.	288	36.4	39.2	15.3	1.49	.300
LRF3U008	50'35.53	4'10.97	SX463792	89.	308	33.7	39.5	14.8	1.50	.319
LRF3U009	50'35.24	4'10.96	SX463787	94.	410	39.5	43.4	16.7	1.87	.360
LRF3U009	50' 34.9	4'10.95	SX463781	96.	388	33.5	52	17	1.82	.360
LRF3U010	50' 34.6	4'10.93	SX464775	100	412	36.4	33.2	14.3	1.77	.330
LRF3U010	50'34.33	4'10.91	SX464770	87.	279	26.2	25.5	10.6	1.25	.238
LRF3U011	50'34.09	4'10.88	SX464766	95.	352	26.2	25.7	10.6	1.45	.259
LRF3U011	50'33.88	4'10.85	SX463762	102	328	27.7	28.6	11.5	1.40	.270
LRF3U012	50'33.63	4'10.82	SX464757	100	359	29.7	21.2	10.6	1.48	.280
LRF3U012	50'33.34	4'10.79	SX464752	101	395	26.2	22.2	9.97	1.53	.300
LRF3U013	50' 33.1	4'10.78	SX464747	89.	658	35.2	46.5	16.2	2.52	.430
LRF3U013	50'32.89	4'10.78	SX464743	96.	793	38.2	62.5	20	3.04	.528
LRF3U014	50'32.71	4'10.79	SX464740	78.	496	47	48.5	19.5	2.25	.418
LRF3U014	50'32.55	4' 10.8	SX464737	82.	556	39.9	56	19.2	2.38	.430
LRF3U015	50'32.37	4' 10.8	SX463734	104	886	27.2	57.9	16.7	3.15	.528
LRF3U015	50'32.17	4'10.79	SX463730	80.	881	42	64.5	21.2	3.34	.550
LRF3U016	50'31.98	4'10.79	SX463727	85.	858	40.9	67.8	21.6	3.28	.550
LRF3U016	50' 31.8	4' 10.8	SX463723	90.	717	54.7	63.5	24	3.03	.509
LRF3U017	50'31.61	4'10.79	SX463720	88.	705	47.7	61	21.7	2.92	.518
LRF3U017	50' 31.4	4'10.76	SX464716	82	735	59.9	75.9	27.2	3.25	.560
LRF3U018	50'31.18	4'10.74	SX464712	84.	701	33	58.5	18.1	2.71	.449
LRF3U018	50'30.94	4'10.73	SX463707	92.	871	36	76.4	22.1	3.32	.560
LRF3U019	50'30.71	4'10.72	SX463703	87.	898	44.7	79.5	24.6	3.52	.600
LRF3U019	50'30.49	4'10.72	SX463699	87.	733	43.9	62.4	21.2	2.96	.5
LRF3U020	50'30.24	4'10.72	SX463694	113	852	33.2	58	18.1	3.13	.540
LRF3U020	50'29.95	4'10.71	SX463689	99.	779	33.7	53.2	17.2	2.90	.469
LRF3U021	50'29.69	4'10.71	SX463684	89.	739	35	58	18.5	2.82	.490
LRF3U021	50'29.44	4'10.72	SX463680	83.	906	42.2	84.5	24.7	3.55	.610
LRF3U022	50'29.17	4'10.73	SX462675	109	975	42.5	74.4	23.2	3.69	.620
LRF3U022	50'28.89	4'10.76	SX462669	83.	869	48.5	63	22.5	3.39	.550
LRF3U023	50'28.59	4'10.77	SX461664	91	834	40.5	69.5	21.7	3.24	.560
LRF3U023	50'28.26	4'10.77	SX461658	87.	840	45	74.4	23.7	3.33	.578
LRF3U024	50'27.93	4'10.76	SX462652	80.	818	47	73.5	24	3.29	.569
LRF3U024	50' 27.6	4'10.73	SX461646	95.	1024	50	69.5	23.7	3.85	.600
LRF3U025	50'27.24	4'10.67	SX462639	97.	835	42.4	66.4	21.7	3.25	.550
LRF3U025	50'26.86	4'10.58	SX463632	75.	874	45.2	71.8	23.2	3.43	.560
LRF3V001	50'38.68	4'10.48	SX471851	79.	352	22.1	40.7	12.3	1.5	.280
LRF3V001	50'38.91	4'10.47	SX472855	103	364	22.6	30.1	10.6	1.47	.270
LRF3V002	50'38.16	4'10.44	SX471841	89.	556	26.7	51.2	15.3	2.19	.388
LRF3V002	50'38.43	4'10.47	SX471846	91	512	59.5	46.7	22	2.43	.439
LRF3V003	50'37.75	4'10.38	SX472833	74.	776	51.9	72.0	24.7	3.24	.560
LRF3V003	50'37.93	4'10.41	SX472837	99.	676	46	53.7	20.2	2.75	.479
LRF3V004	50'37.28	4'10.27	SX473824	87.	773	46.2	58.9	21.2	3.05	.5
LRF3V004	50'37.53	4'10.33	SX473828	101	802	44.5	64.5	21.7	3.17	.540
LRF3V005	50'36.82	4'10.17	SX474815	84.	596	47.5	54	20.6	2.55	.460

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3V005	50'37.04	4'10.22	SX473819	92.	443	36.2	43.2	16.1	1.94	.349
LRF3V006	50'36.34	4'10.08	SX475806	97	385	30.2	39.2	14	1.66	.319
LRF3V006	50'36.58	4'10.13	SX474811	95.	617	40.2	53.7	18.7	2.52	.430
LRF3V007	50'35.83	4'10.04	SX475797	87.	297	23.2	32.2	11.1	1.29	.25
LRF3V007	50'36.09	4'10.05	SX475802	96.	379	36.4	32.4	14.1	1.69	.300
LRF3V008	50'35.36	4'10.06	SX474788	85.	424	33	42.7	15.1	1.85	.340
LRF3V008	50'35.59	4'10.05	SX474792	87.	357	31.7	44	15.1	1.64	.330
LRF3V009	50'34.89	4'10.07	SX474779	86.	422	29.7	33.9	12.8	1.74	.310
LRF3V009	50'35.13	4'10.06	SX474784	95	375	42.2	40.9	17	1.79	.340
LRF3V010	50'34.43	4'10.04	SX474771	98.	626	40.5	27.2	14.1	2.38	.400
LRF3V010	50'34.66	4'10.06	SX474775	109	607	28.2	33.9	12.6	2.23	.388
LRF3V011	50'33.88	4'10.02	SX473761	96.	283	30.2	33	12.8	1.36	.280
LRF3V011	50'34.17	4'10.02	SX474766	98	530	20.5	39.4	11.8	1.97	.340
LRF3V012	50'33.31	4' 9.97	SX474750	94.	817	31	36.5	13.6	2.83	.439
LRF3V012	50'33.59	4' 10	SX474755	105	661	23.2	27.1	10.1	2.25	.370
LRF3V013	50'32.74	4' 9.91	SX475740	102	720	38.2	48.7	17.5	2.75	.479
LRF3V013	50'33.03	4' 9.93	SX474745	104	628	35.5	56.2	18.2	2.51	.439
LRF3V014	50' 32.2	4' 9.88	SX474730	105	907	41	67.5	21.6	3.44	.569
LRF3V014	50'32.47	4' 9.89	SX474735	110	755	34.5	58.7	18.5	2.88	.518
LRF3V015	50'31.63	4' 9.89	SX474719	101	803	41.2	67.5	21.7	3.16	.550
LRF3V015	50'31.92	4' 9.88	SX474724	86.	853	30.5	61.2	18	3.10	.528
LRF3V016	50'31.12	4' 9.92	SX473710	92.	817	44	53.9	19.7	3.13	.509
LRF3V016	50'31.37	4' 9.93	SX473714	109	856	60.9	59.4	24.6	3.47	.610
LRF3V017	50'30.66	4' 9.93	SX472701	85.	792	31.5	67.8	19.2	3	.509
LRF3V017	50'30.89	4' 9.93	SX472705	75.	811	66.0	74.5	28.5	3.50	.600
LRF3V018	50'30.14	4' 9.93	SX472692	85.	777	40.7	67.9	21.5	3.06	.528
LRF3V018	50'30.41	4' 9.93	SX472697	91.	945	36	69.9	20.7	3.5	.560
LRF3V019	50'29.59	4' 9.87	SX473681	107	818	43.2	73.5	23.2	3.25	.578
LRF3V019	50'29.87	4' 9.92	SX472687	78.	852	43.2	62.2	21.1	3.25	.528
LRF3V020	50'29.04	4' 9.89	SX472671	90.	924	38.7	72.0	21.7	3.49	.569
LRF3V020	50'29.31	4' 9.84	SX472676	91.	984	44.2	67.5	22.2	3.68	.578
LRF3V021	50'28.42	4' 9.8	SX473660	87.	839	50.2	75.5	25.1	3.42	.578
LRF3V021	50'28.74	4' 9.84	SX472666	92.	889	47	64.4	22.2	3.43	.569
LRF3V022	50'27.81	4' 9.74	SX473648	92.	761	34	70	20.2	2.97	.528
LRF3V022	50'28.11	4' 9.77	SX473654	91.	852	37.4	69.8	21.1	3.25	.550
LRF3V023	50'27.48	4' 9.76	SX472642	99.	914	26.1	66.3	18	3.25	.528
LRF3V024	50'26.41	4' 9.80	SX472623	89.	929	38.5	77.3	22.7	3.52	.588
LRF3V024	50'26.75	4' 9.84	SX471629	97.	256	12	15.6	5.55	.949	.170
LRF3V025	50'25.77	4' 9.62	SX473611	68.	1126	45	87	26	4.21	.638
LRF3V025	50'26.08	4' 9.60	SX473616	99.	887	31	78	21.2	3.32	.578
LRF3W001	50'39.29	4'10.02	SX477861	89.	550	45.4	50	19.2	2.39	.430
LRF3W001	50'39.06	4' 9.97	SX478857	77.	526	44.4	43	17.7	2.25	.388
LRF3W002	50'38.81	4' 9.91	SX479852	78.	421	41.4	43	17.2	1.94	.340
LRF3W002	50'38.55	4' 9.84	SX478847	116	374	44	32.4	15.8	1.75	.340
LRF3W003	50'38.27	4' 9.70	SX480842	89.	677	40.9	55.7	19.2	2.72	.479
LRF3W003	50'37.97	4' 9.7	SX480836	77.	628	44.5	58.7	20.7	2.65	.449
LRF3X001	50' 39.3	4' 9.1	SX488861	93.	459	27.2	42.4	13.8	1.87	.340
LRF3X001	50'39.69	4' 9.3	SX486868	99	481	43.5	37.2	16.6	2.07	.370
LRF3X002	50'38.61	4' 9.2	SX486848	92.	744	60	59.2	24.2	3.16	.540
LRF3X002	50'38.94	4' 9.09	SX488854	107	560	53.7	51	21.5	2.50	.469
LRF3X003	50'38.17	4' 8.97	SX489840	85.	503	41.4	48.4	18.2	2.20	.409
LRF3X003	50'38.35	4' 8.97	SX489843	85.	630	45	59.9	21.1	2.67	.479
LRF3X004	50'37.63	4' 8.95	SX489830	103	352	28.7	39.9	13.8	1.58	.310
LRF3X004	50'37.93	4' 8.93	SX489836	109	625	41.4	60.5	20.2	2.60	.5
LRF3X005	50'37.11	4' 8.87	SX489820	94.	444	40.7	42.5	17	1.99	.370
LRF3X005	50'37.36	4' 8.8	SX491825	93.	648	32.7	37.7	14.3	2.42	.409
LRF3X006	50'36.55	4' 8.74	SX490810	103	569	29.2	39.9	13.8	2.18	.370
LRF3X006	50'36.84	4' 8.71	SX491816	93.	463	37.5	43.2	16.2	2	.370
LRF3X007	50'36.04	4' 8.57	SX492801	101	532	26.2	28	11.1	1.96	.340
LRF3X007	50'36.29	4' 8.57	SX492805	107	481	43.2	30.7	15.3	2.02	.360
LRF3X008	50' 35.5	4' 8.58	SX491791	83.	343	34.2	32.5	13.6	1.57	.310
LRF3X008	50'35.78	4' 8.57	SX492796	87.	344	33.2	40.4	14.8	1.61	.340

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3X009	50'34.99	4' 8.54	SX492781	87.	371	29.2	36.2	13.1	1.61	.310
LRF3X009	50'35.24	4' 8.57	SX491786	92.	230	34	32.7	13.6	1.25	.270
LRF3X010	50'34.48	4' 8.59	SX491772	88.	714	36.9	39	15.5	2.66	.439
LRF3X010	50'34.73	4' 8.57	SX491776	100	389	26.2	37.9	12.8	1.62	.319
LRF3X011	50'33.97	4' 8.24	SX494762	82.	318	22.1	33	11	1.36	.25
LRF3X011	50'34.22	4' 8.21	SX496767	102	383	36.5	30.5	13.8	1.69	.310
LRF3X012	50'33.42	4' 8.13	SX496752	85.	384	38.7	33.2	14.8	1.74	.319
LRF3X012	50'33.71	4' 8.18	SX495758	125	365	25.2	27.2	10.6	1.49	.259
LRF3X013	50'32.88	4' 7.77	SX500741	89.	504	30.6	36.4	13.5	1.99	.340
LRF3X013	50'33.15	4' 7.99	SX497747	80.	482	35.9	36.5	14.8	2	.349
LRF3X014	50'32.38	4' 7.84	SX498733	84.	686	27.7	48.2	15.1	2.52	.439
LRF3X014	50'32.63	4' 7.72	SX501737	86.	473	40.2	40	16.2	2.03	.360
LRF3X015	50'31.81	4' 8.04	SX496722	83.	941	47.5	66.0	22.7	3.57	.569
LRF3X015	50'32.11	4' 7.95	SX497728	114	764	43.7	57.7	20.2	3	.509
LRF3X016	50'31.23	4' 8.15	SX494712	88.	818	39	60.9	19.7	3.10	.528
LRF3X016	50'31.52	4' 8.11	SX495717	66	943	34.9	65.5	19.7	3.45	.560
LRF3X017	50'30.68	4' 8.15	SX493702	87.	757	37.7	53	18.2	2.88	.5
LRF3X017	50'30.95	4' 8.16	SX493707	97.	932	54.2	69.9	25	3.68	.660
LRF3X018	50'30.12	4' 8.16	SX493691	85.	963	35.7	66.0	20.1	3.5	.560
LRF3X018	50' 30.4	4' 8.15	SX493696	79.	991	42	78.0	23.7	3.75	.620
LRF3X019	50'29.58	4' 8.08	SX494681	77.	1036	41.7	66.5	21.6	3.77	.620
LRF3X019	50'29.85	4' 8.04	SX495686	75.	1007	48.9	63.7	22.7	3.75	.600
LRF3X020	50' 29	4' 8.05	SX494670	83.	874	45.7	52.7	19.7	3.28	.518
LRF3X020	50' 29.3	4' 8.05	SX494676	85.	978	40	69.5	21.7	3.63	.588
LRF3X021	50'28.36	4' 8.05	SX494659	96.	920	48.7	65	22.7	3.52	.560
LRF3X021	50'28.69	4' 8.05	SX494665	96.	1013	32.4	63.9	19	3.58	.578
LRF3X022	50'27.67	4' 8.04	SX493646	94.	872	35	65.9	19.7	3.25	.560
LRF3X022	50'28.02	4' 8.05	SX494652	82.	976	43.5	74.5	23.2	3.70	.620
LRF3X023	50'27.11	4' 8.06	SX492635	97	1014	43.4	72.9	23.1	3.77	.620
LRF3X023	50'27.36	4' 8.05	SX493640	75.	952	41.7	68	21.7	3.55	.569
LRF3X024	50'26.57	4' 8.05	SX493626	97.	1057	51.5	70.8	24.5	3.99	.638
LRF3X024	50'26.84	4' 8.06	SX492631	90.	947	45.2	73.0	23.6	3.63	.588
LRF3X025	50'26.11	4' 7.97	SX493617	82.	1153	59	74.0	26.7	4.36	.670
LRF3X025	50'26.32	4' 7.92	SX493621	89.	1002	51.5	71.5	24.7	3.83	.629
LRF3W001	50'39.29	4'10.02	SX477861	89.	550	45.4	50	19.2	2.39	.430
LRF3W001	50'39.06	4' 9.97	SX478857	77.	526	44.4	43	17.7	2.25	.388
LRF3W002	50'38.81	4' 9.91	SX479852	78.	421	41.4	43	17.2	1.94	.340
LRF3W002	50'38.55	4' 9.84	SX478847	116	374	44	32.4	15.8	1.75	.340
LRF3W003	50'38.27	4' 9.70	SX480842	89.	677	40.9	55.7	19.2	2.72	.479
LRF3W003	50'37.97	4' 9.7	SX480836	77.	628	44.5	58.7	20.7	2.65	.449
LRF3W004	50'37.68	4' 9.64	SX481831	100	777	48.5	70.4	23.7	3.19	.550
LRF3W004	50'37.39	4' 9.59	SX481826	76.	747	33	47.2	16.1	2.75	.449
LRF3W005	50' 37.1	4' 9.54	SX481820	92.	680	42.5	48	18.2	2.70	.469
LRF3W005	50'36.81	4' 9.49	SX482815	83.	884	43	55	19.7	3.29	.5
LRF3W006	50'36.51	4' 9.45	SX482809	89.	599	34.2	50.9	17	2.40	.418
LRF3W006	50'36.21	4' 9.43	SX482804	91.	642	42.5	37	16.2	2.5	.418
LRF3W007	50' 35.9	4' 9.43	SX482798	89	869	44	40.7	17.2	3.18	.518
LRF3W007	50'35.59	4' 9.47	SX481792	67.	356	24.2	42.5	13.3	1.54	.300
LRF3W008	50'35.33	4' 9.46	SX481788	79.	344	43.2	39.9	17.1	1.73	.330
LRF3W008	50'35.12	4' 9.42	SX481784	86.	441	35	54.2	17.7	2	.379
LRF3W009	50'34.91	4' 9.37	SX482780	85.	420	37.5	45.9	16.7	1.89	.360
LRF3W009	50'34.68	4' 9.31	SX483776	86.	366	32.2	46.2	15.6	1.71	.319
LRF3W010	50'34.47	4' 9.26	SX483772	90.	556	37	38.4	15.3	2.23	.379
LRF3W010	50'34.29	4' 9.22	SX484768	92.	589	38	43.2	16.5	2.34	.409
LRF3W011	50'34.09	4' 9.17	SX484765	104	669	35.5	32.5	14	2.48	.409
LRF3W011	50'33.88	4' 9.09	SX484761	96.	451	27.1	31.2	11.8	1.75	.319
LRF3W012	50' 33.7	4' 9.07	SX485757	93.	328	30.7	28.2	12.1	1.46	.270
LRF3W012	50'33.52	4' 9.05	SX485754	75.	643	38.5	41.4	16.2	2.5	.409
LRF3W013	50'33.31	4' 9.09	SX484750	106	600	39.7	41.4	16.5	2.40	.409
LRF3W013	50'33.06	4' 9.26	SX482746	95.	386	34.2	45	15.8	1.75	.349
LRF3W014	50'32.82	4' 9.17	SX483741	100	658	41.7	45	17.6	2.59	.430
LRF3W014	50'32.58	4' 9.16	SX483737	107	774	43.2	50.7	19	2.98	.490

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3W015	50'32.35	4' 9.08	SX483732	92.	760	55	58.2	23	3.13	.509
LRF3W015	50'32.12	4' 9.03	SX484728	87.	632	54.5	59.7	23.2	2.77	.479
LRF3W016	50'31.89	4' 8.97	SX485724	97.	863	54.2	52	21.7	3.34	.550
LRF3W016	50'31.64	4' 8.88	SX486719	84.	959	45	75.5	23.7	3.68	.588
LRF3W017	50'31.39	4' 8.81	SX487715	82.	967	32	78	21.5	3.55	.610
LRF3W017	50'31.12	4' 8.75	SX487710	99.	853	40.7	67.9	21.6	3.27	.560
LRF3W018	50'30.99	4' 8.74	SX486707	83.	908	45.7	72	23.5	3.51	.578
LRF3W018	50' 31	4' 8.76	SX486707	70.	898	36	65.0	20	3.31	.528
LRF3W019	50'30.58	4' 8.70	SX487700	88.	916	44	62.5	21.2	3.46	.569
LRF3W019	50'30.14	4' 8.7	SX487692	98.	902	36.2	63	19.7	3.31	.540
LRF3W020	50'29.78	4' 8.63	SX488685	93.	701	28.7	50.5	15.6	2.59	.430
LRF3W020	50'29.49	4' 8.55	SX489680	93.	868	38	58.5	19.2	3.23	.528
LRF3W021	50'29.23	4' 8.5	SX488675	92.	814	35.9	56	18.2	3.02	.509
LRF3W021	50' 29	4' 8.47	SX489670	93.	859	37.5	57.2	18.7	3.19	.509
LRF3W022	50'28.73	4' 8.42	SX489665	125	849	44.2	60.7	21	3.25	.540
LRF3W022	50'28.43	4' 8.33	SX490660	97.	757	46.2	55.7	20.6	3	.518
LRF3W023	50'28.18	4' 8.31	SX491655	79.	949	39	68.5	21.2	3.51	.560
LRF3W023	50'27.97	4' 8.25	SX491651	72.	1095	44.7	71.0	23.1	4.01	.620
LRF3W024	50'27.75	4' 8.25	SX490647	78.	940	37.7	65.4	20.2	3.47	.569
LRF3W024	50'27.52	4' 8.21	SX491643	99.	922	42.5	69.8	22.2	3.5	.588
LRF3W025	50'27.21	4' 8.22	SX491637	102	1086	42	79	23.7	4.01	.638
LRF3W025	50'26.84	4' 8.20	SX491631	133	1002	42.5	70	22.2	3.73	.638
LRF3Y001	50'39.77	4' 8.52	SX495870	75.	433	35	38.2	14.8	1.86	.330
LRF3Y001	50'39.48	4' 8.46	SX496864	72.	486	26.7	36.9	12.8	1.88	.330
LRF3Y002	50' 39.2	4' 8.34	SX497859	88.	374	37.2	34	14.6	1.70	.330
LRF3Y002	50'38.94	4' 8.15	SX499854	73.	764	50.5	71.5	24.2	3.18	.518
LRF3Y003	50'38.68	4' 7.8	SX503849	111	568	45.7	62.7	21.7	2.51	.479
LRF3Y003	50'38.41	4' 7.27	SX509844	83.	530	42.2	51	18.7	2.29	.418
LRF3Y004	50'38.16	4' 7.11	SX511839	82.	668	35.5	65	19.7	2.70	.479
LRF3Y004	50'37.94	4' 7.34	SX508835	81	661	34.5	63.2	19.2	2.66	.509
LRF3Y005	50'37.73	4' 7.37	SX508831	89.	599	44	59.2	20.7	2.55	.460
LRF3Y005	50'37.52	4' 7.2	SX510827	81.	380	39.2	36	15.5	1.75	.330
LRF3Y006	50'37.29	4' 7.04	SX512823	81.	200	35.4	25.6	12.6	1.12	.25
LRF3Y006	50'37.04	4' 6.91	SX512818	73.	141	22.1	26.2	9.76	.828	.200
LRF3Y007	50'36.76	4' 6.92	SX512813	69.	207	29.2	28.7	11.8	1.11	.230
LRF3Y007	50'36.45	4' 7.08	SX510807	83.	339	34.2	35.4	14.1	1.58	.319
LRF3Y008	50'36.14	4' 7.18	SX509802	99.	301	31	40.7	14.3	1.47	.340
LRF3Y008	50'35.85	4' 7.23	SX508796	107	400	44.2	41.5	17.6	1.89	.349
LRF3Y009	50'35.55	4' 7.29	SX507791	94.	374	36.2	42.5	15.8	1.75	.319
LRF3Y009	50'35.25	4' 7.36	SX506785	107	396	34.4	36.4	14.3	1.74	.340
LRF3Y010	50'34.93	4' 7.38	SX506779	103	434	20.2	46.7	13.1	1.75	.330
LRF3Y010	50' 34.6	4' 7.33	SX506773	105	296	32.9	38.9	14.5	1.47	.300
LRF3Y011	50'34.29	4' 7.28	SX507767	88.	364	22.7	32.9	11.1	1.49	.270
LRF3Y011	50' 34	4' 7.24	SX506762	96.	356	25.2	24.2	10.1	1.44	.25
LRF3Y012	50'33.73	4' 7.21	SX507757	84.	320	21.5	24.1	9.26	1.28	.230
LRF3Y012	50'33.48	4' 7.2	SX507752	96.	268	23.5	26.1	10.1	1.19	.238
LRF3Y013	50'33.22	4' 7.23	SX506748	97.	286	19.7	31.2	10.1	1.24	.25
LRF3Y013	50'32.95	4' 7.3	SX505743	105	440	42.2	33.7	15.6	1.94	.349
LRF3Y014	50'32.69	4' 7.36	SX505738	82	687	51.2	45.7	19.7	2.78	.469
LRF3Y014	50'32.44	4' 7.39	SX503733	87.	530	51.5	49.7	20.7	2.41	.430
LRF3Y015	50'32.17	4' 7.46	SX503728	94.	779	52.2	55.4	21.7	3.13	.528
LRF3Y015	50'31.88	4' 7.55	SX502723	88.	860	42.7	63.2	21.2	3.28	.560
LRF3Y016	50'31.58	4' 7.53	SX502717	99.	823	40.7	67.9	21.5	3.20	.569
LRF3Y016	50'31.25	4' 7.4	SX503711	92.	783	52.2	63.2	23.2	3.20	.550
LRF3Y017	50'30.94	4' 7.35	SX503705	103	909	50.2	55	21.2	3.46	.588
LRF3Y017	50'30.65	4' 7.36	SX503700	84.	846	42.4	51.2	18.7	3.17	.528
LRF3Y018	50'30.33	4' 7.35	SX503694	103	814	34.7	59	18.6	3.03	.5
LRF3Y018	50'29.97	4' 7.31	SX503687	101	777	44.7	52.7	19.7	3.00	.5
LRF3Y019	50'29.67	4' 7.27	SX504682	90.	849	34.7	69.5	20.5	3.22	.528
LRF3Y019	50' 29.4	4' 7.22	SX503677	96.	877	35	58	18.5	3.21	.528
LRF3Y020	50'29.15	4' 7.17	SX504672	101	902	30	57.5	17.2	3.22	.528
LRF3Y020	50'28.92	4' 7.12	SX505668	112	821	48.9	56.7	21.2	3.22	.550

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF3Y021	50'28.65	4' 7.09	SX505663	91.	861	42.7	67.3	21.7	3.31	.560
LRF3Y021	50'28.34	4' 7.1	SX505657	113	919	45.5	61.7	21.6	3.48	.600
LRF3Y022	50'28.03	4' 7.08	SX505652	103	1013	46.7	61.4	21.7	3.75	.600
LRF3Y022	50' 27.7	4' 7.05	SX504645	115	868	40.2	54.5	19	3.23	.540
LRF3Y023	50'27.41	4' 7.02	SX505640	88	923	42.2	70	22.2	3.5	.588
LRF3Y023	50'27.15	4' 7	SX505635	110	850	36.5	68	20.7	3.23	.578
LRF3Y024	50' 26.9	4' 7	SX505631	71.	1093	59	76.5	27.2	4.21	.648
LRF3Y024	50'26.67	4' 7.03	SX505626	87.	962	40.7	68.9	21.7	3.57	.600
LRF3Y025	50'26.44	4' 7.15	SX503622	96	968	40	80.5	23.7	3.68	.600
LRF3Y025	50'26.21	4' 7.37	SX500618	80.	867	48.5	61.4	22.2	3.35	.528
LRF3Z001	50'39.73	4' 7.25	SX510868	85.	530	60.9	48.4	22.6	2.5	.449
LRF3Z001	50'39.38	4' 7.13	SX511861	83.	582	58	51	22.2	2.63	.469
LRF3Z002	50' 39	4' 7	SX513854	92.	585	40	53.9	18.7	2.45	.430
LRF3Z002	50' 38.6	4' 6.87	SX514847	102	625	46.5	62.4	21.7	2.69	.490
LRF3Z003	50' 38.2	4' 6.75	SX515840	98.	668	42	56	19.7	2.71	.490
LRF3Z003	50' 37.8	4' 6.65	SX516832	109	346	25.5	41.7	13.3	1.52	.300
LRF3Z004	50'37.43	4' 6.65	SX516825	79.	230	27.5	25.2	10.8	1.12	.230
LRF3Z004	50'37.08	4' 6.75	SX514819	78.	147	25	28.2	10.8	.888	.218
LRF3Z005	50'36.75	4' 6.8	SX513813	84.	266	22.2	29.7	10.5	1.20	.25
LRF3Z005	50'36.45	4' 6.8	SX513807	87.	301	33.2	33.5	13.6	1.45	.289
LRF3Z006	50'36.13	4' 6.78	SX514801	107	336	29	43.9	14.5	1.57	.310
LRF3Z006	50'35.77	4' 6.73	SX514795	112	376	24.2	34.5	11.6	1.53	.319
LRF3Z007	50'35.43	4' 6.68	SX514788	92.	393	29.2	27.2	11.6	1.61	.300
LRF3Z007	50'35.08	4' 6.63	SX514782	104	401	17.7	37.2	10.8	1.57	.270
LRF3Z008	50'34.75	4' 6.58	SX515776	93.	292	19.7	18	7.71	1.14	.209
LRF3Z008	50'34.45	4' 6.53	SX516770	92.	548	30.7	42.2	14.6	2.16	.379
LRF3Z009	50'34.18	4' 6.5	SX516765	85.	392	33	35.7	14	1.71	.300
LRF3Z009	50'33.93	4' 6.5	SX515761	84.	240	16.7	26.2	8.59	1.02	.188
LRF3Z010	50'33.65	4' 6.48	SX515755	106	212	14.6	27.2	8.22	.939	.200
LRF3Z010	50'33.35	4' 6.43	SX516750	91.	261	23.1	33	11.3	1.22	.238
LRF3Z011	50'33.05	4' 6.43	SX516744	89.	498	35.9	47.7	16.7	2.10	.388
LRF3Z011	50'32.75	4' 6.48	SX515739	80.	446	42	41	17	2	.360
LRF3Z012	50'32.47	4' 6.5	SX514734	92.	611	33.2	51.5	16.7	2.42	.409
LRF3Z012	50'32.22	4' 6.5	SX514729	97.	872	37.5	62.5	19.7	3.25	.528
LRF3Z013	50' 32	4' 6.58	SX513725	85.	954	46.4	64.4	22.2	3.59	.569
LRF3Z013	50' 31.8	4' 6.73	SX511721	92	770	32.7	52.7	17	2.84	.490
LRF3Z014	50'31.68	4' 6.6	SX513719	96.	773	39	56.5	19.1	2.97	.528
LRF3Z014	50'31.63	4' 6.2	SX518718	89.	812	46.7	60.4	21.6	3.19	.540
LRF3Z015	50'31.48	4' 6.08	SX519715	89.	861	51.7	66.8	23.7	3.43	.600
LRF3Z015	50'31.23	4' 6.23	SX517711	100	898	42	69.9	22.2	3.44	.569
LRF31001	50'39.22	4' 5.83	SX527859	104	545	42	49	18.2	2.31	.439
LRF31001	50'39.47	4' 5.88	SX526863	84.	527	29.1	44.9	14.6	2.08	.379
LRF31002	50'38.72	4' 5.8	SX526849	95.	826	45.7	68.3	22.7	3.25	.578
LRF31002	50'38.97	4' 5.8	SX527854	85.	754	46.5	61	21.6	3.01	.528
LRF31003	50'38.22	4' 5.8	SX526840	105	549	44	54.5	19.7	2.40	.449
LRF31003	50'38.47	4' 5.8	SX526845	101	799	49.2	58.7	21.7	3.17	.560
LRF31004	50'37.65	4' 5.8	SX526829	91.	309	26.7	37.5	12.8	1.40	.289
LRF31004	50'37.95	4' 5.8	SX526835	103	404	30.1	37.7	13.6	1.72	.349
LRF31005	50' 37.2	4' 5.88	SX524821	81.	209	27.2	24.2	10.6	1.07	.218
LRF31005	50' 37.4	4' 5.83	SX526825	93.	198	36.2	28.2	13.3	1.14	.238
LRF31006	50'36.72	4' 5.9	SX524812	95.	233	28.1	31.6	12.1	1.19	.259
LRF31006	50'36.97	4' 5.9	SX524817	100	258	33.2	27.5	12.5	1.27	.259
LRF31007	50' 36.3	4' 5.9	SX524805	88.	646	48.7	58.9	21.7	2.75	.5
LRF31007	50' 36.5	4' 5.9	SX524808	80.	304	57.7	42.9	20.7	1.79	.409
LRF31008	50'35.83	4' 5.98	SX523796	102	472	27.2	38.5	13.1	1.87	.349
LRF31008	50'36.08	4' 5.93	SX524800	95.	550	30.7	43.7	14.8	2.17	.409
LRF31009	50' 35.4	4' 5.93	SX523788	77.	335	20.6	23.7	8.96	1.32	.238
LRF31009	50' 35.6	4' 5.98	SX522792	90	413	14.1	18.2	6.48	1.40	.238
LRF31010	50' 35	4' 5.9	SX523780	85	351	20.2	27.6	9.60	1.37	.25
LRF31010	50' 35.2	4' 5.9	SX523784	93.	273	23.1	28.2	10.3	1.22	.238
LRF31011	50'34.45	4' 5.9	SX523770	93.	662	41.5	62.9	20.7	2.74	.469
LRF31011	50'34.75	4' 5.9	SX523776	78.	320	31.2	23.7	11.3	1.39	.238

Filename	Position	Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF31012	50'33.77 4' 5.9	SX522758	90.	356	37.7	36	15.1	1.65	.319
LRF31012	50'34.13 4' 5.9	SX522764	103	389	39.2	25.2	13.5	1.71	.300
LRF31013	50'33.08 4' 5.83	SX523745	99.	643	47.7	43	18.6	2.60	.460
LRF31013	50'33.43 4' 5.88	SX522751	83.	504	34.2	45.5	16	2.08	.360
LRF31014	50'32.45 4' 5.73	SX523733	101	814	38.5	59.4	19.5	3.08	.518
LRF31014	50'32.75 4' 5.78	SX523739	100	701	46.4	51.4	19.7	2.80	.5
LRF31015	50' 31.7 4' 5.55	SX525719	92.	639	31.7	50.4	16.2	2.48	.430
LRF31015	50' 32.1 4' 5.65	SX524727	94.	748	36.7	62.2	19.6	2.92	.509
LRF31016	50'31.05 4' 5.43	SX526707	88.	859	39.7	59	19.7	3.23	.528
LRF31016	50'31.35 4' 5.48	SX526713	82.	690	30.7	48	15.6	2.56	.439
LRF31017	50'30.52 4' 6.25	SX516698	93.	808	38.5	50.2	17.7	3.00	.490
LRF31017	50'30.78 4' 6.24	SX516702	81.	909	38.5	69.0	21.2	3.42	.569
LRF31018	50'29.95 4' 6.1	SX518687	106	885	41.2	60.4	20.2	3.31	.560
LRF31018	50'30.24 4' 6.21	SX516692	92	788	45.7	46.9	18.7	3.00	.490
LRF31019	50'29.32 4' 6.07	SX517675	84	634	37.4	54.5	18.2	2.54	.439
LRF31019	50'29.64 4' 6.06	SX518681	77.	842	45.5	58.7	21	3.25	.518
LRF31020	50'28.75 4' 5.91	SX519665	91.	870	44.2	64.3	21.7	3.33	.560
LRF31020	50'29.02 4' 6.02	SX518670	115	872	42.5	59	20.2	3.28	.578
LRF31021	50'28.23 4' 5.77	SX521655	83.	900	44.9	57.2	20.6	3.39	.560
LRF31021	50'28.48 4' 5.82	SX520660	103	891	80.5	66	30.2	3.83	.680
LRF31022	50'27.76 4' 5.64	SX521647	81.	798	48.7	67.0	23.2	3.23	.550
LRF31022	50'27.99 4' 5.71	SX521651	93.	799	38.5	56	18.7	3.01	.540
LRF31023	50' 27.3 4' 5.51	SX523638	78.	955	47	60	21.6	3.57	.578
LRF31023	50'27.53 4' 5.57	SX522642	86.	1000	37	64.4	20.1	3.60	.569
LRF31024	50' 26.8 4' 5.43	SX524629	82.	816	43.5	53.7	19.6	3.10	.528
LRF31024	50'27.05 4' 5.46	SX523633	89.	878	40.4	63.4	20.7	3.30	.560
LRF31025	50'26.27 4' 5.43	SX523619	93	916	42.7	61.7	20.7	3.44	.588
LRF31025	50'26.54 4' 5.42	SX524624	71.	952	43.9	79.0	24.2	3.67	.600
LRF32001	50' 39.9 4' 5.15	SX535870	76.	860	50.7	66.3	23.5	3.41	.569
LRF32001	50' 39.7 4' 5.05	SX536866	86.	862	50.5	54	21.2	3.31	.540
LRF32002	50' 39.5 4' 4.98	SX537863	89.	888	44.2	55.9	20.2	3.32	.540
LRF32002	50' 39.3 4' 4.93	SX538859	81.	1180	38.5	77.8	22.7	4.21	.670
LRF32003	50'39.08 4' 4.88	SX538855	86.	1009	39.4	76.8	22.7	3.75	.670
LRF32003	50'38.83 4' 4.83	SX539850	94.	970	52.5	66.5	24	3.74	.620
LRF32004	50' 38.6 4' 4.8	SX538846	86.	732	66.3	55.4	25.1	3.17	.610
LRF32004	50' 38.4 4' 4.8	SX538842	85.	685	56.4	57.2	23.2	2.94	.540
LRF32005	50' 38.2 4' 4.8	SX538839	84	467	35.2	46.9	16.5	2.00	.379
LRF32005	50' 38 4' 4.8	SX538835	86.	347	33	37	14.1	1.60	.310
LRF32006	50'37.75 4' 4.78	SX538830	94.	275	36.7	32.7	14.3	1.40	.300
LRF32006	50'37.45 4' 4.73	SX539825	84.	396	31.7	43.7	15.1	1.75	.340
LRF32007	50' 36.8 4' 4.95	SX535813	99.	564	31.2	41.9	14.6	2.20	.409
LRF32007	50' 36.8 4' 4.98	SX535813	97.	435	22.6	32.9	11.1	1.69	.319
LRF32008	50' 35.6 4' 5.05	SX533791	98.	431	30.2	34.4	13.1	1.76	.330
LRF32008	50' 35.6 4' 5.09	SX533791	82.	344	24	21.7	9.39	1.37	.25
LRF32009	50'35.48 4' 5.11	SX532788	94.	294	16.7	18.7	7.19	1.12	.218
LRF32009	50'35.24 4' 5.08	SX533784	96.	186	19.7	23.7	8.77	.910	.200
LRF32010	50'34.96 4' 5.06	SX533779	82.	397	10.8	27.5	7.42	1.38	.238
LRF32010	50'34.64 4' 5.04	SX533773	123	373	36.7	38	15.1	1.72	.330
LRF32011	50'34.35 4' 5.03	SX533767	65	574	48.5	51.5	20.2	2.5	.449
LRF32011	50' 34.1 4' 5.03	SX532763	82.	300	32	26.7	12.1	1.37	.270
LRF32012	50'33.81 4' 5.02	SX532757	94.	324	14.1	24.7	7.71	1.23	.238
LRF32012	50' 33.5 4' 5	SX533752	89.	382	21.2	35.7	11.3	1.53	.310
LRF32013	50' 33.2 4' 5.02	SX532746	90	889	45.5	55.9	20.5	3.34	.578
LRF32013	50'32.91 4' 5.07	SX532741	94.	1112	60.5	78.5	28	4.30	.730
LRF32014	50' 32.6 4' 5.1	SX532735	103	783	58.2	57.7	23.7	3.23	.578
LRF32014	50'32.29 4' 5.09	SX531729	86.	876	67	70.3	27.7	3.68	.648
LRF32015	50' 32 4' 5.08	SX531724	89.	785	68	60.5	26.2	3.35	.588
LRF32015	50'31.73 4' 5.07	SX531719	96.	777	43	65	21.6	3.07	.550
LRF32017	50'30.97 4' 5.06	SX530705	93	841	44.4	61	21.1	3.25	.540
LRF32017	50'30.71 4' 5.09	SX530700	96	893	33.7	57.9	18.2	3.24	.518
LRF32017	50'30.97 4' 5.06	SX530705	93	841	44.4	61	21.1	3.25	.540
LRF32017	50'30.71 4' 5.09	SX530700	96	893	33.7	57.9	18.2	3.24	.518

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF32018	50'30.44	4' 5.1	SX530695	96.	870	56.7	73	26.1	3.54	.629
LRF32018	50'30.15	4' 5.11	SX529690	87.	938	47.9	58.7	21.5	3.52	.569
LRF32019	50'29.88	4' 5.12	SX529685	113	783	43.7	47.7	18.6	2.99	.5
LRF32019	50'29.62	4' 5.15	SX529680	97.	879	44.2	54.5	19.7	3.29	.569
LRF32020	50' 29.3	4' 5.18	SX528674	107	738	45.5	43.9	18.2	2.84	.490
LRF32020	50'28.91	4' 5.22	SX527667	100	829	50.4	55	21.2	3.24	.569
LRF32021	50'28.55	4' 5.23	SX527660	86.	813	80.5	64.5	29.7	3.60	.629
LRF32021	50'28.22	4' 5.21	SX527655	82.	945	60.5	74.0	27.2	3.80	.648
LRF32022	50'27.93	4' 5.18	SX528649	69.	848	55.2	69.5	25.2	3.46	.588
LRF32022	50'27.68	4' 5.15	SX527644	71.	1021	60.5	61	24.7	3.93	.638
LRF32023	50'27.43	4' 5.11	SX527639	84.	968	51	64.3	23.2	3.70	.610
LRF32023	50'27.18	4' 5.06	SX528635	86.	1184	57	68.5	25.2	4.38	.689
LRF32024	50'26.93	4' 5.01	SX529630	90.	1055	40.5	60	20.1	3.76	.578
LRF32024	50'26.67	4' 4.96	SX529625	106	955	36.7	59.4	19.1	3.46	.560
LRF32025	50'26.44	4' 4.92	SX530621	81.	996	41	58.7	20	3.60	.569
LRF32025	50'26.23	4' 4.87	SX529617	83.	820	45	59.5	21	3.19	.5
LRF33001	50'39.81	4' 3.84	SX550868	83.	851	96.5	81	36.5	4.03	.740
LRF33001	50' 39.6	4' 4.05	SX548865	85.	1188	113	101	43.7	5.28	.930
LRF33002	50'39.33	4' 4.19	SX546860	105	1195	104	109	43.2	5.25	.939
LRF33002	50' 39	4' 4.27	SX545853	80.	1207	128	97	46.5	5.48	.930
LRF33003	50'38.71	4' 4.33	SX544848	77.	1062	143	91.0	48.9	5.21	.939
LRF33003	50'38.46	4' 4.38	SX543843	82	733	82	58.2	29.1	3.38	.620
LRF33004	50'38.22	4' 4.42	SX543839	62.	505	39.7	39.9	16.2	2.13	.379
LRF33004	50'37.97	4' 4.46	SX542834	66.	463	38.2	44	16.7	2.01	.370
LRF33005	50'37.73	4' 4.5	SX542830	95.	346	45.7	33.9	16.5	1.72	.349
LRF33005	50'37.49	4' 4.53	SX541826	99.	379	42.5	40.2	16.7	1.82	.349
LRF33006	50'37.24	4' 4.55	SX541821	98.	465	46.2	42.9	18.2	2.10	.409
LRF33006	50'36.99	4' 4.59	SX540816	90.	565	47.7	46.7	19.2	2.43	.439
LRF33007	50'36.74	4' 4.62	SX539812	96.	557	41.5	42.7	17.2	2.29	.409
LRF33007	50'36.49	4' 4.66	SX539807	91.	410	34	29.7	13.1	1.73	.319
LRF33008	50'36.23	4' 4.71	SX538802	100	380	29.1	30.2	12.1	1.59	.310
LRF33008	50'35.96	4' 4.78	SX537797	83.	312	31.6	26.2	11.8	1.39	.25
LRF33009	50'35.72	4' 4.85	SX536793	77.	332	21.7	19.7	8.52	1.28	.238
LRF33009	50'35.51	4' 4.94	SX534789	80.	276	26.7	23.2	10.3	1.23	.230
LRF33010	50'35.27	4' 5.05	SX533784	73.	251	31	19	10.5	1.19	.218
LRF33010	50' 35	4' 5.18	SX532779	75	261	20.7	17.7	7.90	1.08	.209
LRF33011	50'34.78	4' 5.24	SX531775	94.	261	19.1	27.1	9.25	1.12	.218
LRF33011	50'34.59	4' 5.21	SX531772	68.	552	40.7	48.2	18	2.31	.409
LRF33012	50'34.28	4' 5.1	SX533766	96.	520	29.2	48.5	15.5	2.09	.400
LRF33012	50'33.84	4' 4.91	SX534758	90.	261	20.2	21.7	8.56	1.11	.218
LRF33013	50'33.52	4' 4.64	SX537752	88.	445	31.6	40.5	14.5	1.87	.360
LRF33013	50'33.31	4' 4.3	SX541748	85.	816	47.2	44.9	18.7	3.08	.528
LRF33014	50'33.06	4' 4.06	SX544744	76.	868	78.9	66.3	29.7	3.75	.670
LRF33014	50'32.76	4' 3.92	SX545738	86.	714	75.0	57.7	27.5	3.24	.578
LRF33015	50'32.46	4' 3.91	SX545732	90	1111	93.5	87	37	4.75	.828
LRF33015	50'32.16	4' 4.02	SX543727	91.	766	87.5	77.5	33.9	3.67	.699
LRF33016	50'31.87	4' 4.09	SX542722	113	901	71	75.0	29.7	3.81	.689
LRF33016	50' 31.6	4' 4.12	SX542717	98.	812	59.7	67.5	25.7	3.40	.638
LRF33017	50' 31.3	4' 4.16	SX542711	110	756	64.5	60	25.5	3.25	.578
LRF33017	50'30.99	4' 4.21	SX540705	123	860	55.5	63.4	24.1	3.45	.629
LRF33018	50'30.71	4' 4.25	SX540700	94.	612	38.7	42	16.2	2.42	.439
LRF33018	50'30.48	4' 4.3	SX539696	86.	836	61	55.4	23.7	3.39	.560
LRF33019	50'30.22	4' 4.25	SX540691	91.	879	55	64	24.1	3.5	.569
LRF33019	50'29.93	4' 4.12	SX541686	104	817	40.7	54	19.1	3.07	.5
LRF34001	50'23.05	4' 5.31	SX522559	89.	707	52	54.2	21.6	2.92	.479
LRF34001	50'22.93	4' 5.8	SX516557	93.	562	45.7	40	17.7	2.34	.400
LRF34002	50'22.77	4' 6.15	SX512554	95.	282	12	26.5	7.53	1.10	.200
LRF34002	50'22.56	4' 6.37	SX509550	96.	446	19.6	20	8.06	1.59	.230
LRF34003	50'22.32	4' 6.51	SX508546	97.	555	21.2	38	11.6	2.01	.330
LRF34003	50'22.06	4' 6.56	SX507541	90.	171	16	13.6	6.11	.75	.128
LRF34014	50'23.41	4'11.43	SX451568	110	207	9.76	5.17	3.15	.720	.100
LRF34015	50'23.51	4'11.29	SX452570	110	476	15.6	34.7	9.85	1.73	.280

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF34015	50'23.57	4'11.12	SX454571	116	519	22.7	32.4	11.1	1.90	.340
LRF34016	50'21.36	4' 17.4	SX378533	79.	443	19.2	45.2	12.6	1.75	.310
LRF34016	50'21.43	4'17.73	SX374534	76.	537	26.6	67.5	18.2	2.25	.409
LRF34017	50'21.51	4'17.91	SX372536	91.	719	24.2	59.5	16.2	2.67	.460
LRF34017	50'21.58	4'17.95	SX371537	78.	679	37.7	48.7	17.2	2.64	.449
LRF34018	50'21.58	4'17.77	SX374537	83.	669	36.9	46.7	16.7	2.57	.430
LRF34018	50'21.49	4'17.38	SX378536	88.	629	25.7	52.2	15.3	2.39	.400
LRF34019	50'21.41	4'17.01	SX383533	95.	559	24	42	13.1	2.08	.360
LRF34019	50'21.32	4'16.67	SX387531	110	579	35.2	56.4	18.2	2.39	.430
LRF34030	50'23.77	4'12.07	SX443575	101	328	24.7	15.1	8.35	1.27	.209
LRF34030	50'23.96	4' 12.1	SX443578	99.	423	22.6	26.2	9.89	1.61	.270
LRF34031	50'24.01	4'12.46	SX438580	90.	346	14.3	25	7.78	1.27	.209
LRF34032	50'23.93	4'12.72	SX435579	94.	366	11.1	28.1	7.63	1.33	.230
LRF34032	50'23.81	4'13.03	SX432576	93.	406	17.2	29.7	9.34	1.50	.259
LRF34033	50'23.26	4'14.58	SX413566	88.	925	31.7	69.3	19.7	3.38	.528
LRF34033	50'23.09	4'14.79	SX410564	80.	679	33.2	44.5	15.6	2.54	.439
LRF34034	50'23.07	4'14.99	SX407564	82	601	34	37.7	14.6	2.29	.370
LRF34034	50' 23.2	4'15.19	SX406566	87.	783	41	67	21.5	3.07	.509
LRF34035	50'23.24	4'15.22	SX406567	85.	640	29.6	44.7	14.8	2.41	.409
LRF34035	50' 23.2	4'15.09	SX407566	89.	789	21.2	48.7	13.6	2.75	.430
LRF34036	50'23.13	4'14.98	SX408565	100	586	18.6	41.5	11.6	2.09	.360
LRF34036	50'23.03	4'14.89	SX409563	98.	385	14.8	31.2	9.06	1.45	.25
LRF34037	50' 23	4'15.07	SX407562	93.	569	17.5	38.9	11	2.01	.330
LRF34037	50'23.03	4'15.53	SX401563	97.	557	24.2	44	13.5	2.10	.349
LRF34038	50'22.96	4'15.86	SX397562	88.	527	18.7	41.9	11.8	1.95	.310
LRF34038	50'22.79	4'16.05	SX395559	94.	477	17.7	37.7	10.8	1.76	.300
LRF34039	50'22.73	4'16.32	SX392557	87.	652	37.7	47	17.1	2.54	.409
LRF34039	50'22.78	4'16.67	SX388558	92.	611	30.7	55	17	2.42	.418
LRF34040	50'22.89	4' 16.9	SX385560	98.	472	31.2	44	15.1	1.97	.340
LRF34040	50'23.06	4' 17	SX384564	77.	348	19.6	26.7	9.31	1.37	.230
LRF34041	50'23.27	4'17.01	SX385567	89.	415	19.7	33.4	10.6	1.60	.270
LRF34041	50'23.52	4'16.91	SX386572	93.	419	19.2	32.2	10.1	1.60	.259
LRF34042	50'23.78	4' 16.8	SX387577	96.	483	20.2	29.6	9.93	1.75	.310
LRF34042	50'24.05	4'16.69	SX388582	97	435	25.7	39.2	13	1.75	.300
LRF34043	50'24.33	4'16.63	SX389587	94.	426	21.2	40	12.1	1.70	.289
LRF34043	50'24.62	4'16.65	SX389592	78.	461	33.9	24.7	12.1	1.83	.319
LRF34044	50'24.67	4'16.66	SX389593	85.	591	20	32.2	10.3	2.05	.300
LRF34044	50' 24.5	4'16.68	SX388590	83.	463	26.1	42.5	13.6	1.87	.330
LRF34045	50'24.26	4'16.74	SX388586	91.	465	29.2	26.2	11.3	1.78	.310
LRF34045	50'23.95	4'16.85	SX386580	86.	420	31.7	25.2	11.8	1.70	.300
LRF34046	50' 23.7	4'17.04	SX384575	92.	585	32.2	50.4	16.2	2.31	.400
LRF34046	50' 23.5	4'17.33	SX381573	90.	457	17.2	34.2	10.1	1.69	.280
LRF34047	50'23.41	4'17.57	SX378571	83.	395	26.1	30.7	11.5	1.60	.280
LRF34047	50'23.44	4'17.76	SX376572	94.	593	38.7	41	16.2	2.34	.388
LRF34048	50'23.57	4'17.91	SX374574	87.	425	20	30.1	10	1.61	.289
LRF34048	50' 23.8	4'18.02	SX373578	82.	551	22.2	36.5	11.6	2.00	.340
LRF34049	50'24.02	4'18.11	SX372582	84.	573	21.7	34.2	11.1	2.04	.319
LRF34049	50'24.25	4'18.19	SX371587	86.	508	16.7	45	12	1.88	.330
LRF34050	50'24.45	4'18.37	SX368590	91	439	28.6	43.2	14.3	1.84	.330
LRF34050	50'24.64	4'18.64	SX365594	92	502	26.2	41	13.3	1.97	.340
LRF34051	50'24.71	4'18.75	SX365595	100	633	31.2	52.5	16.6	2.47	.430
LRF34051	50'24.66	4'18.69	SX365594	84.	540	34.7	43.2	15.6	2.19	.370
LRF34052	50'24.51	4'18.54	SX366591	95.	463	19.7	27.1	9.43	1.69	.289
LRF34052	50'24.27	4' 18.3	SX369587	90.	437	24.1	21.7	9.39	1.62	.289
LRF34053	50'24.06	4'18.15	SX371583	84	470	22.2	40.2	12.3	1.83	.300
LRF34053	50'23.87	4'18.08	SX372580	82	478	19.1	38.7	11.3	1.78	.300
LRF34054	50'23.67	4'18.04	SX372576	81.	557	31.5	41.2	14.6	2.18	.349
LRF34054	50'23.45	4'18.01	SX373572	83.	403	26.7	42.5	13.8	1.72	.300
LRF34055	50'23.33	4'18.16	SX371570	92	350	27.7	30.2	11.8	1.5	.259
LRF34055	50'23.31	4'18.49	SX367569	92.	436	30.5	31.6	12.6	1.75	.289
LRF34056	50'23.28	4'18.76	SX364569	95.	536	28.1	47.2	15	2.13	.370
LRF34056	50'23.25	4'18.98	SX361568	101	638	31.2	52.7	16.7	2.48	.418

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF34057	50'23.22	4' 18.9	SX362568	87.	555	32.9	41.2	15	2.19	.388
LRF34057	50' 23.2	4'18.51	SX367567	90	535	28.6	36.5	13.1	2.03	.349
LRF34058	50'23.13	4'18.17	SX370566	96.	484	25	38.7	12.6	1.87	.319
LRF34058	50'23.02	4'17.87	SX373564	100	487	19.5	40.5	11.8	1.84	.319
LRF34059	50'22.87	4'17.84	SX374561	92.	521	25.7	46.5	14.3	2.04	.349
LRF34059	50'22.68	4'18.09	SX371558	84	479	36	43.2	16	2.02	.360
LRF34060	50'22.63	4'18.18	SX370557	78.	530	25.5	56	16	2.14	.400
LRF34060	50' 22.7	4' 18.1	SX371558	89.	509	38.2	59.2	19.5	2.25	.400
LRF34061	50'22.79	4' 17.9	SX373560	87.	443	33.2	34.5	13.8	1.84	.330
LRF34061	50'22.91	4'17.56	SX377562	93	425	27.2	28.6	11.3	1.66	.289
LRF34062	50'22.83	4'17.19	SX381560	82.	260	12.1	22.7	6.94	1.00	.170
LRF34062	50'22.55	4'16.77	SX386554	103	320	17	24.6	8.31	1.25	.230
lrf34063	50' 22.5	4'15.23	SX405553	99	458	12.1	27.7	7.84	1.59	.259
lrf34063	50'22.61	4'14.64	SX412554	100	352	10.8	25.6	7.11	1.25	.218
lrf34064	50' 22.8	4'14.16	SX417558	103	341	4.28	25.1	5.53	1.14	.180
lrf34064	50'23.08	4'13.79	SX422563	103	538	16.1	34.9	9.97	1.88	.280
lrf34065	50'23.27	4'13.42	SX427566	91.	300	12.8	19.1	6.36	1.10	.188
lrf34065	50'23.36	4'13.05	SX431568	87.	291	14.6	27.7	8.35	1.14	.200
lrf34066	50'23.38	4' 12.7	SX436568	89.	480	11.5	42	10.3	1.74	.289
lrf34066	50'23.31	4'12.38	SX439567	94.	462	14.1	32.9	9.18	1.64	.259
lrf34067	50'23.22	4'12.24	SX441565	91	371	10	23.2	6.48	1.27	.200
lrf34067	50'23.11	4'12.29	SX439562	95.	382	15.5	21.6	7.42	1.37	.209
lrf34068	50'22.99	4'12.19	SX441560	86.	479	21.6	38.2	11.8	1.83	.300
lrf34068	50'22.86	4'11.96	SX443558	93.	454	16.2	27.5	8.68	1.62	.25
lrf34069	50'22.74	4'11.82	SX445556	91.	424	14.3	21.2	7.09	1.47	.209
lrf34069	50'22.65	4'11.77	SX446554	91.	494	20.5	32.7	10.6	1.82	.289
lrf34070	50'22.49	4'11.74	SX446551	96.	262	10.5	15	5.09	.939	.150
lrf34070	50'22.28	4'11.73	SX446547	96.	364	20.7	22.7	8.81	1.38	.230
lrf34071	50'22.13	4'11.77	SX446544	103	449	22.2	35.7	11.5	1.74	.289
lrf34071	50'22.05	4'11.88	SX444543	129	396	14.8	19.2	6.86	1.37	.230
lrf34072	50'21.89	4'12.04	SX442540	104	76.9	1.12	3.07	.310	.218	2.99
lrf34073	50'21.51	4'12.51	SX436534	110	487	27	29.7	11.5	1.86	.289
lrf34073	50'21.48	4'12.79	SX433533	98.	523	15.6	43	11.3	1.90	.330
lrf34074	50'21.53	4' 13.1	SX429534	92.	494	30.7	48	15.6	2.03	.349
lrf34074	50'21.67	4'13.45	SX426537	101	575	26.2	40.9	13.3	2.17	.349
lrf34075	50'21.69	4'13.69	SX423537	89	402	20.2	34.5	10.8	1.58	.280
lrf34075	50' 21.6	4'13.84	SX420536	89.	591	32.5	47.5	16	2.31	.379
lrf34076	50' 21.4	4'13.62	SX423532	104	767	34	68.5	20.2	2.98	.518
lrf34076	50'21.11	4'13.03	SX430526	89.	669	32	70.8	20.1	2.70	.5
lrf34077	50'20.94	4' 12.5	SX436523	108	605	40.5	42.5	16.7	2.43	.409
lrf34077	50'20.89	4'12.01	SX442521	98.	225	6.09	20.6	5.13	.828	.150
lrf34078	50'21.16	4'11.21	SX451526	93.	467	17.7	29.2	9.38	1.69	.25
lrf34079	50' 21.3	4'10.84	SX456529	103	385	16.5	30.6	9.27	1.46	.25
lrf34079	50'21.37	4'10.47	SX460530	102	185	9.47	8.88	3.75	.680	.108
lrf34080	50'21.27	4'10.19	SX463528	96.	246	13.5	15.1	5.80	.939	.140
lrf34080	50'21.02	4'10.02	SX465524	92.	401	9.06	29.2	7.38	1.39	.238
lrf34081	50'20.78	4'10.06	SX465519	99	345	26.7	27.2	11	1.45	.25
lrf34081	50'20.57	4' 10.3	SX462516	108	470	31.7	37	13.8	1.90	.330
lrf34082	50'20.44	4'10.26	SX462513	70.	310	28.1	31.5	12.1	1.38	.230
lrf34090	50'24.54	4' 22.1	SX324594	105	194	14.5	5.63	4.30	.740	.119
lrf34091	50'25.05	4'10.95	SX457598	100	340	9.38	21.1	5.96	1.19	.180
lrf34091	50' 25.3	4'10.85	SX458603	100	201	7.92	5.34	2.75	.680	.108
lrf34092	50'25.71	4' 9.99	SX469610	104	313	12.3	21.7	6.71	1.13	.200
lrf34093	50'25.85	4' 9.92	SX469612	80	365	22.2	30	10.5	1.47	.259
lrf34093	50'25.93	4'10.56	SX462615	89.	493	18	38	11	1.82	.300
lrf34094	50'26.05	4'10.89	SX458617	86.	508	24.5	37	12.3	1.94	.310
lrf34094	50'26.21	4' 10.9	SX458620	93.	394	11	33.2	8.55	1.44	.238
LRF34095	50'27.48	4' 9.45	SX476642	96.	506	31.6	33	13.1	1.99	.340
LRF34095	50'27.27	4' 9.71	SX473638	96.	489	21.2	48.2	13.6	1.91	.340
LRF34096	50' 27	4' 10	SX470633	88.	417	20.5	38.2	11.6	1.63	.289
LRF34096	50'26.69	4'10.32	SX466629	94.	504	23.2	35.7	11.8	1.88	.289
LRF34097	50'27.22	4'11.95	SX446639	104	490	19.7	32.2	10.3	1.78	.280

Filename	Position		Grid Ref	Alt (m)	Ch.1 K	Ch.2 eU	Ch.3 eTh	Ch.4 Alpha	Ch.5 Beta	Ch.6 Gamma
LRF34097	50'27.46	4'12.26	SX443643	108	454	11.5	32.2	8.43	1.60	.289
LRF34098	50'27.68	4'13.63	SX427648	93.	462	20.2	37.7	11.5	1.75	.300
LRF34098	50' 27.7	4'13.87	SX424648	88.	415	21.2	31.1	10.5	1.60	.289
LRF34099	50'27.82	4'13.83	SX424651	98.	327	23.2	21.1	9.13	1.32	.230
LRF34099	50'28.04	4'13.51	SX429655	96.	463	18.6	29.2	9.55	1.69	.280
LRF34100	50' 28.3	4'13.24	SX432660	98.	637	26.2	36.5	12.6	2.29	.370
LRF34100	50'28.59	4'13.01	SX435665	98.	455	23.7	29	10.6	1.72	.289
LRF34101	50'28.87	4'12.96	SX436670	104	517	23	36	11.8	1.94	.310
LRF34101	50'29.14	4'13.07	SX434675	104	335	12.5	31.7	8.60	1.26	.230
LRF34102	50'29.38	4'13.04	SX435679	104	497	28	35.4	12.8	1.94	.330
LRF34102	50'29.57	4'12.87	SX438683	93.	575	25.2	52.4	15.1	2.23	.400